TOURISM/RECREATION AND BUSINESS TRAVEL IMPACT - SLAVE RIVER HYDROELECTRIC DAM PROJECT

a study done for:

Environmental Assessment Division
Alberta Department of the Environment

by:

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Edmonton, Alberta

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Executive Summary - Tourism/Recreation and Business Travel Impact - Slave River Hydroelectric Dam Project

Bahnuik & Wright were retained by the Alberta Department of Environment to conduct an overview analysis of the opportunities and potentials for tourism in the Fort Smith - Fort Chipewyan Region, which would be created by the construction and operation of the hydroelectric project on the Slave River. The analysis has examined the resource base of the region, the various impacts associated with and without project construction, the impact on tourism of road access to the region, and the potentials for involvement by local residents and the local business community in the tourism industry.

The results of this overview are summarized as follows:

1. The greatest opportunity for tourism would be created by the construction of the Slave River hydroelectric project and a new road (prior to the dam being built) linking both Fort Smith and Fort Chipewyan to southern markets.

2. The resource base of the region is limited to creating tourism opportunities oriented to outdoor recreation, wildlife/historic/interpretation, and adventure tours.

3. The Alberta market is not expected to be a significant factor in travel to the region. Foreign markets such as West Germany and the United States offer the most potential for service and facility development, but extensive promotion would be required.

4. Management policies for Wood Buffalo National Park may constrain or conflict with the objective of tourism development in the region, and it is essential that Parks Canada be involved with planning at all levels.

5. On-site workers involved with project construction would not likely have the time nor the flexibility to participate in extensive tourism

activities while engaged in construction activities. During shift changes or leaves, they are most likely to travel out of the study area.

6. Benefits accruing to local merchants and residents from on-site workers would be confined to Fort Smith, and primarily to food and beverage facilities in the town, with minor benefit to dry goods merchants. Rental of recreation equipment like boats, snowmobiles, cross-country skis, etc., would probably be popular for day-use activities.

7. Travel of management personnel and consultants to the dam-site could trigger increased tourism activity. With proper preparation, including training programs, promotion, development of facilities, and attractions; various opportunities could be realized.

8. The tourism industry will be constrained by climate, and will primarily be limited to a ninety day season (June 15 to September 15).

9. Local resident training, support, and participation in Fort Smith and Fort Chipewyan is required to generate and sustain a tourism industry.

10. Formal research was not conducted on the effects of the possible hydroelectric project on the flooding of the rapids and the relocation of the pelicans. It is felt by the consultant, that the rapids and pelicans will not be a major loss as a viewing attraction for the local residents, but may be of interest to non-resident visitors. Informal interviews of a cross-section of Fort Smith residents indicates that the pelican colony is not a significant concern.

11. Although a formal survey was not carried out, numerous telephone and person-to-person interviews were conducted. The following is a consensus of opinion expressed by local residents:
    a. There seems to be a even difference of opinion in Fort Chipewyan

on the need/desire and social/economic benefits of improved transportation linkage to the south or to Fort Smith.

b. One of the major problems experienced in both Fort Smith and Fort Chipewyan is the lack of reasonable and long term financing for new facilities.

Residents identified many of the opportunities cited in this report, but due to the location of these two communities, financing has been difficult to obtain for capital intensive projects.

c. There is a definite need at both Fort Smith and Fort Chipewyan for more attractions and activities to extend the stay of the present travelling public and to attract additional visitors. Residents agree that what may be every-day occurrence to them, may be novel to a visitor. This could be an area of opportunity, i.e. dog sled rides, the making of dog sleds, trap line tours, etc. Restaurants could try serving more local foods such as caribou and fish.

d. Commercial accommodation and dining facilities are definitely required at Fort Chipewyan, if there is any hope in developing an overnight tourist trade.

e. There are many knowledgeable and experienced residents in both communities, who can offer interesting guiding and outfitting services. However, it is questionable as to how many of these residents are prepared to provide these services on a regular and consistant basis. The level of tourism awareness combined with the expectations of a tourist regarding the services provided by a guide or outfitter, may be a hinderance to developing this opportunity.

f. The residents of Fort Chipewyan cannot as yet, identify any economic

benefits in tourism, as there are a number of key unanswered questions such as, will there be a transportation linkage to the south and to Fort Smith?

g. The residents of Fort Smith can identify economic benefits to their community and are in favour of the hydroelectric project.

h. Perceived long term benefits from the project, along with increased tourism activity, is a common misunderstanding among the local populace.

i. A feeling of mistrust of Parks Canada is evident among local residents. In addition, residents feel there is little support from Parks Canada for their desire to use Wood Buffalo National Park as an income resource.

j. Most residents of the study area agree that the best advertising is "word-of-mouth" advertising. To accomplish this factor in a positive sense, hospitality training and education, and a commitment by residents and business community to tourism, is essential. Both communities would welcome assistance in the training area.

12. If the hydroelectric project proceeds, the construction camp will likely be self-contained. There will have to be communication at a very early stage to ensure that hospitality industry services and specific facility opportunities are identified to study area residents. The same would apply to the phases of road construction.

13. It is quite probable that only a few new businesses would be established as a result of the hydroelectric project proceeding. The majority of opportunities will materialize for existing businesses to expand their volume and physical size, but only to the degree that they are flexible in cutting back their business volume once the project is operational and the large number of construction workers have left the area.

14. The completion of the Liard Highway in 1983, will probably have a detrimental effect on the Fort Smith region, as the Liard loop would be a more desirable and practical route for the many travellers to gain a northern experience. The proximity to the Alaska Highway is an important factor in planning vacations.

15. Precise "Tourism/Recreation/Business Travel" impacts are not possible to finalize at this stage of feasibility analysis, until certain decisions are made such as:

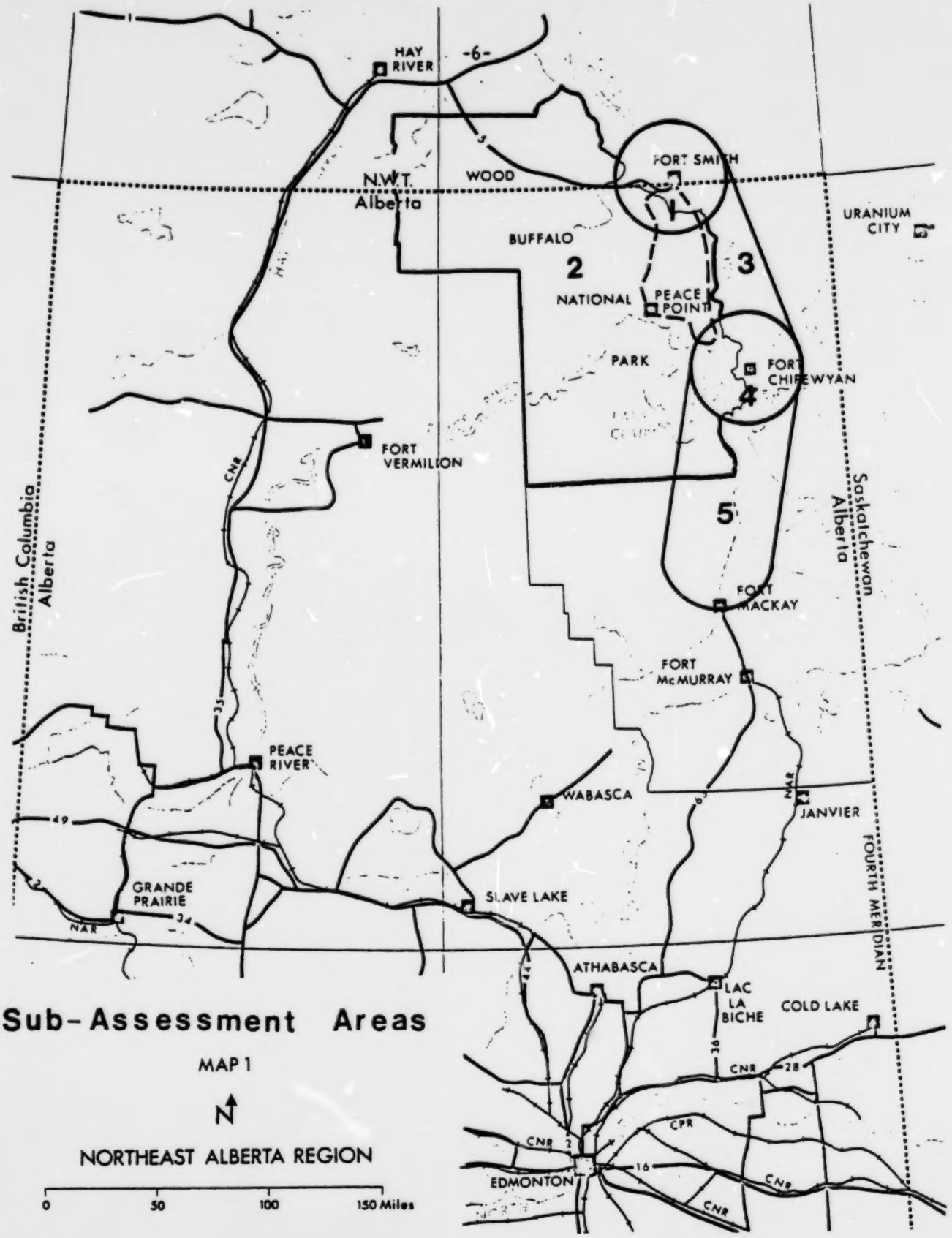
    a. The exact location and type of hydroelectric project to be constructed.

    b. Whether a transportation linkage will be constructed between Fort Smith and Fort McMurray, when, and by which route?

    c. The long term plans and policies of Parks Canada, including:
       - Will there be a road from Peace Point to Garden Creek?
       - Is Parks Canada going to maintain Wood Buffalo National Park as a restricted access wildlife and natural resource preserve? If so, the study area will not realize the potential of its number one tourist attraction.

    d. Will governments assist in promoting the resources of the area as a tourist attraction?

    e. Will the necessary financing, specifically tailored to meet the seasonal needs of the region, be made available?


HAY RIVER
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N.W.T.
Alberta
WOOD
FORT SMITH
URANIUM CITY
BUFFALO
2
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NATIONAL
PEACE POINT
PARK
FORT CHIPEWYAN
4
FORT VERMILION
CNR
British Columbia
Alberta
5
Saskatchewan
Alberta
FORT MACKAY
FORT McMURRAY
PEACE RIVER
WABASCA
JANVIER
FOURTH MERIDIAN
GRANDE PRAIRIE
SLAVE LAKE
ATHABASCA
LAC LA BICHE
COLD LAKE
CNR
CPR
EDMONTON
Sub-Assessment Areas
MAP 1
N
NORTHEAST ALBERTA REGION
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1. Sub-Assessment Areas

Introduction

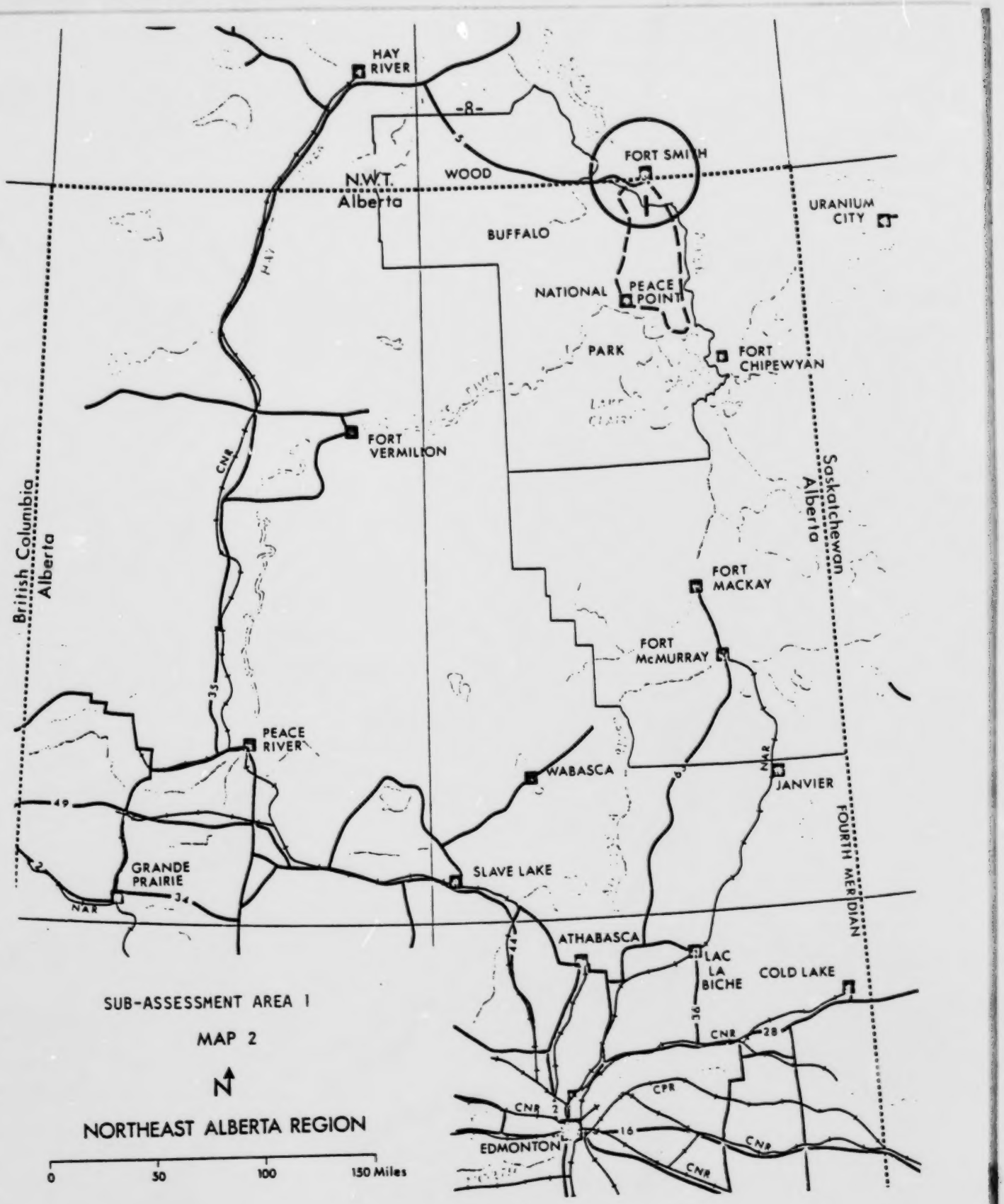
The entire study region has been broken down into five sub-assessment areas, (as shown in Map#1), in order to gain a more detailed prospective of the resource base, and to highlight potential opportunities and constraints to the development of a local tourism industry. It should be noted at the outset, that development of conventional forms of tourism such as auto touring, sightseeing, and visiting friends and relatives, are significantly constrained by directly accessible year round road, climate, distance to marketplace, and the small local population.

Each sub-assessment area has been examined in terms of the following factors:

- Location and Function
- History and Archaeology
- Physical and Natural Features
- Transportation
- Service Sector
- Facilities, Events and Attractions
- Outdoor Recreation Opportunities

These findings are being presented as an inventory of information, with technical data of lesser importance itemized in the Appendices.

The relationship of these factors to the future development of a tourism industry is presented in the market analysis and impact sections of this report.


HAY RIVER
-8-
FORT SMITH
N.W.T.
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WOOD
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URANIUM CITY
NATIONAL PARK
PEACE POINT
FORT CHIPEWYAN
FORT VERMILION
CNR
British Columbia
Alberta
Saskatchewan
Alberta
FORT MACKAY
FORT McMURRAY
PEACE RIVER
WABASCA
NAR
JANVIER
FOURTH MERIDIAN
GRANDE PRAIRIE
SLAVE LAKE
ATHABASCA
LAC LA BICHE
COLD LAKE
CNR
CPR
EDMONTON
SUB-ASSESSMENT AREA 1
MAP 2
N
NORTHEAST ALBERTA REGION
0
50
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150 Miles

1.1. Sub-Assessment Area #1 - Fort Smith, Northwest Territories and Vicinity

1.1.1. Location and Function

The community of Fort Smith is located in the Northwest Territories, immediately adjacent to the Alberta border, approximately 1,370 road kilometers northeast of Edmonton, Alberta, and 750 road kilometers southeast of Yellowknife, Northwest Territories.

The town functions as a secondary government administrative centre, as well as being the dominant commercial centre for the surrounding trading area, which includes Fort Chipewyan. Fort Smith is the fifth largest community in the Northwest Territories with a 1981 population of 2,298 persons.[1] This community is one of the few in the region with a population of sufficient size to support a diversified retail and service sector.

To a lesser degree, Fort Smith serves as a minor staging area for visitor traffic to Wood Buffalo National Park, and several fishing lodges in the area.

1.1.2. History and Archaeology

Fort Smith owes its existence to its geographic location on the banks of the Slave River, immediately downstream of an unnavigable set of rapids which constitute the only physical barrier to water transportation between Lake Athabasca and the MacKenzie River Delta, a distance of approximately 2,600 kilometers. The presence of the rapids forced early explorers and fur traders to portage, with their re-entry point to the river being the present location of Fort Smith. The fact that all river traffic had to land or embark at the site led the Hudson's Bay Company to establish a trading post in 1874, named after Donald Alexander Smith, later known as Lord Strathcona.

In 1876, a Roman Catholic mission was established near the Fort. In later years it played a significant role in the economic development

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1 Government of Canada, 1981 Population Census - Fort Smith, N.W.T., Statistics Canada, Edmonton, Alberta, June 1981.

of the community. In 1911, mission priests began farming and supplied the settlement with fresh milk, meat and produce until 1976, when the mission was closed. The Mission sawmill provided lumber for the first hospital, completed in 1914, and for the first school, which was built a year later.

1911 was a turning point for the settlement as farming was initiated, and the first land survey of the community was completed. A Federal Indian agent and a regional medical officer arrived that year as the first resident representatives of the Federal Government.

Thereafter, Fort Smith increased it's role as a government administrative centre. In 1921, the first Federal Government building was constructed and the first Court of Justice in the Mackenzie District was convened. The creation of Wood Buffalo National Park in 1922 brought additional Federal Government functions to the community. By the 1950's the Federal Departments of Northern Affairs and Natural Resources, Transport, Finance, National Health and Welfare, Citizenship and Immigration and Public Works all had offices in the community. In addition, Fort Smith retained it's portage terminus role for river transportation on the Mackenzie river system.

As a government administration and northern transportation centre, Fort Smith has been affected by changing economic activities in the Northwest Territories. For example, the discovery of gold in Yellowknife in 1934 brought a rush of prospectors through the area. Of greater significance was the 1942 boom created by the arrival of the United States Army to begin construction of the Canol pipeline project. The Army built winter roads and an airport which were later turned over to the Canadian Government.

Between 1945 and 1955, the population of Fort Smith increased rapidly, primarily due to the expansion of government offices. The development of transportation and service industries kept pace with this population growth. However, subsequent commercial development was inhibited by the restructuring of Federal administration in the Northwest Territories

and uncertainty as to the location for a Territorial Capital. In 1967, Yellowknife was chosen as the location for the Northwest Territories capital. Over the following years, most territorial head office government functions were moved to Yellowknife. Fort Smith retained some localized functions and became one of the four regional administration centres for the new Government of the Northwest Territories.

Preliminary archaeological investigations carried out in the study area were conducted by the Alberta Archaeological Survey along the Slave River, in the vicinity of the Slave River Rapids (Pollock 1977). This survey recorded some twenty-one sites of which ten are prehistoric and eleven historic, along the Dog River and Slave River between Fort Fitzgerald and Fort Smith. Many sites along the Slave River have been buried by frequent siltation or destroyed by erosion. Three historic sites are considered important; Half-way House, Dog River Cabin Site One and Dog River Cabin Site Two. Historic portages follow side channels along the east side of the river. These were described as early as 1802 by Alexander Mackenzie, followed by many others including John Franklin in 1819 and W. J. MacLean in 1901 (Pollock 1978). A more recent wagon or "tote" road is located on the west side. It was constructed by the Hudson's Bay Company by 1900 for the transport of goods by oxen and carts and has been described in books by David Hanbury, Elihu Stewart, and others. The area was surveyed by the Alberta Archaeological Survey in the summer of 1977 (Pollock, 1978). Survey conditions along the portages on the east side of the river proved difficult as floods, perhaps every 100 years or so, have deposited layers of silt anywhere from a few to ten centimeters deep over most of the valley floor. The portage routes are still quite visible however. Two cabins built in the early 1900's at the mouth of the Dog River, which enters the Slave River from the east just upstream of Cassette Rapids, are considered worthy of further excavation. Seven historic sites were also identified along the more stable west valley rim. Some prehistoric materials were produced, however no sites of excavatable quality were located. One historic site, Half-way House, is generally considered worthy of further investigation by historians and archaeologists.

The Slave River Boating Route along the Slave River forms part of a historic fur trade route as well as a present day transportation route. It is navigable by canoe or larger power craft. Difficulty in navigation varies considerably with fluctuations in water levels. A portage of large vessels is necessary around Cassette Rapids, Pelican Rapids, Mountain Rapids, and the Rapids of the Drowned at the Northwest Territories border. Canoeists may bypass the first three sets of rapids using side channels on the east bank. Only a few brief portages are required.

The river is receiving increasing use from canoeists paddling to the Arctic Ocean. Routes along the Peace, Athabasca, and Fond du Lac Rivers all converge at Fort Chipewyan, and thence pass to the Arctic Ocean via the Slave and Mackenzie Rivers.

1.1.3. Physical and Natural Features

The Town of Fort Smith is bounded by muskeg flats to the south, and a forty foot high ridge to the east. Future expansion of the town will likely occur to the west because of the physical limitations in the other directions.

The most significant physical resource in the area is water, principally the Slave River. There are four major sets of rapids on the Slave River in a fifteen kilometer stretch between Fort Fitzgerald and Fort Smith. These are; the Cassette Rapids, Pelican Rapids, Mountain Rapids, and Rapids of the Drowned. The Canoe Alberta, 4th Edition 1978, Booklet 2, rates these rapids as "unnavigable (Class VI+) and must be portaged" (page 16). In addition, there are approximately 200 islands and islets within this stretch of river which contains open water year-round.

The moisture laden air in the vicinity of the rapids and moderating influence of open water has contributed to a particularly lush growth of vegetation on the islands and shores of the river, with considerable richness and diversity (1978 Alberta Ecological Survey).

However, the most significant resident of this river habitat is the

White Pelican. The islands in the river, particularly at Pelican Portage near the Pelican Rapids, support the world's most northerly White Pelican rookery.

Each year approximately 30 breeding pairs use the area with 200 - 300 non-breeding immigrants arriving in June (Van Pelt pers. comm.). The colony is only one among twenty breeding colonies of White Pelicans in the Prairie Provinces; a considerable decline since presettlement days (Salt, 1976). The birds are extremely vulnerable to predators and vandalism during nesting, incubation and raising of young, and therefore require the protection afforded by nesting on islands. Increasing settlement has posed increasing threats to colonies in more developed areas such that the Alberta Government, in the fall of 1977, declared its White Pelicans an endangered species and provided for special protection of all colonies except the one at Mountain Rapids. Further discussions of the potential impacts of a dam on the colony are discussed in other sections of this report.

The climate of Fort Smith is characterized by short, warm summers, and long cold winters, but is by comparison one of the mildest climatic zones in the Northwest Territories. The January mean high temperature is -20.3° C. while the July mean high temperature is +23.8° C. The area receives relatively moderate precipitation.

1.1.4. Transportation

Fort Smith is accessible primarily by air or road. Scheduled service is provided daily by Pacific Western Airlines with chartered service provided by Buffalo Airways Ltd., Fort Smith Air Services, and Air Providence.

Road access into Fort Smith is provided by an all-weather gravel Highway #5, which extends westward to Hay River. There it connects with the Mackenzie Highway which is the main road link between Yellowknife and Edmonton. The highway distance from Fort Smith to Edmonton, Alberta,

on this route is 1,356 kilometers. Within the Northwest Territories, the highway is gravelled to the Alberta border and paved from there south. There is also an all-weather road from Fort Fitzgerald, Alberta to Fort Smith, a distance of about fifteen kilometers.

Water transportation was formerly used extensively. However, the building of the Pine Point railway to the north, and the high cost of transshipment necessary at Fort McMurray and Fort Fitzgerald for goods destined for Fort Smith, has decreased the viability of commercial water transportation.

The Slave River is partially a navigable route by canoe or larger power craft. Difficulty in navigation varies considerably with fluctuations in water levels. A portage is necessary around the four sets of rapids.

Bus transportation to and from Fort Smith is provided by two companies, offering daily and charter service to Hay River. The nearest railroad service is at Pine Point, 228 road kilometers to the northwest of Fort Smith. (See Appendix A, page 23).

1.1.5. Service Sector

Fort Smith has a fairly wide range of commercial, retail, and institutional facilities serving the local and regional population. Included are a full range of medical facilities, police protection, churches, cultural organizations, service clubs, and an active business community. (Appendix B).

1.1.6. Hospitality Sector

Commercial accommodation in Fort Smith is limited to one motel and one hotel. Their livelihood presently depends primarily on business travellers, who in large part, are comprised of persons on government related activities.

There are five relatively small campgrounds offering limited services in the study area. They are primarily government operated, with the exception being a campground owned and operated by the Metis Association. The fishing lodges in this region cater primarily to sportsmen rather than the casual visitor or commercial traveller. Details on accommodation

facilities can be found in Area Appendix C, page 137.

Three restaurants, two of which have dining room facilities, are located in Fort Smith. Groceries are available at retail outlets in the town.

There are two information centres in the town of Fort Smith. The town operates one information centre from June to September in Conibear Park. Parks Canada has a year-round information centre for Wood Buffalo National Park visitors.

1.1.7. Events and Attractions

There are two events held annually within the Fort Smith vicinity, which are of local significance. The largest event is the Wood Buffalo Frolics. The Wood-Choppers Ball, otherwise known as the Muffaloose Frolics, is a mid-March highlight of this annual celebration of the rites of spring. Northern games include tea boiling contests, log chopping, and muskrat skinning, in addition to the usual favourites of hockey, skiing, snowmobiling racing. Indoor activities include bingo, a casino and a variety show. The other event is the Fitz/Smith Ski-a-thon. Cross-country skiers can go on a forty kilometer tour from Fort Fitzgerald along the historic Portage Trail to Fort Smith. This event is sponsored by the Fort Smith Ski Club.

The arts and crafts of the Northwest Territories reflect a way of life very different from that familiar to most of us. Many articles are constructed from raw quills, bone, stone or ivory. There are three handicraft shops in Fort Smith, producing a wide variety of articles ranging from finger woven belts to sculptures, prints and wall hangings that have received national and international artistic acclaim.

The Northern Life Museum portrays the early days of the North's pioneer and aboriginal people.

1.1.8. Tourism and Recreation

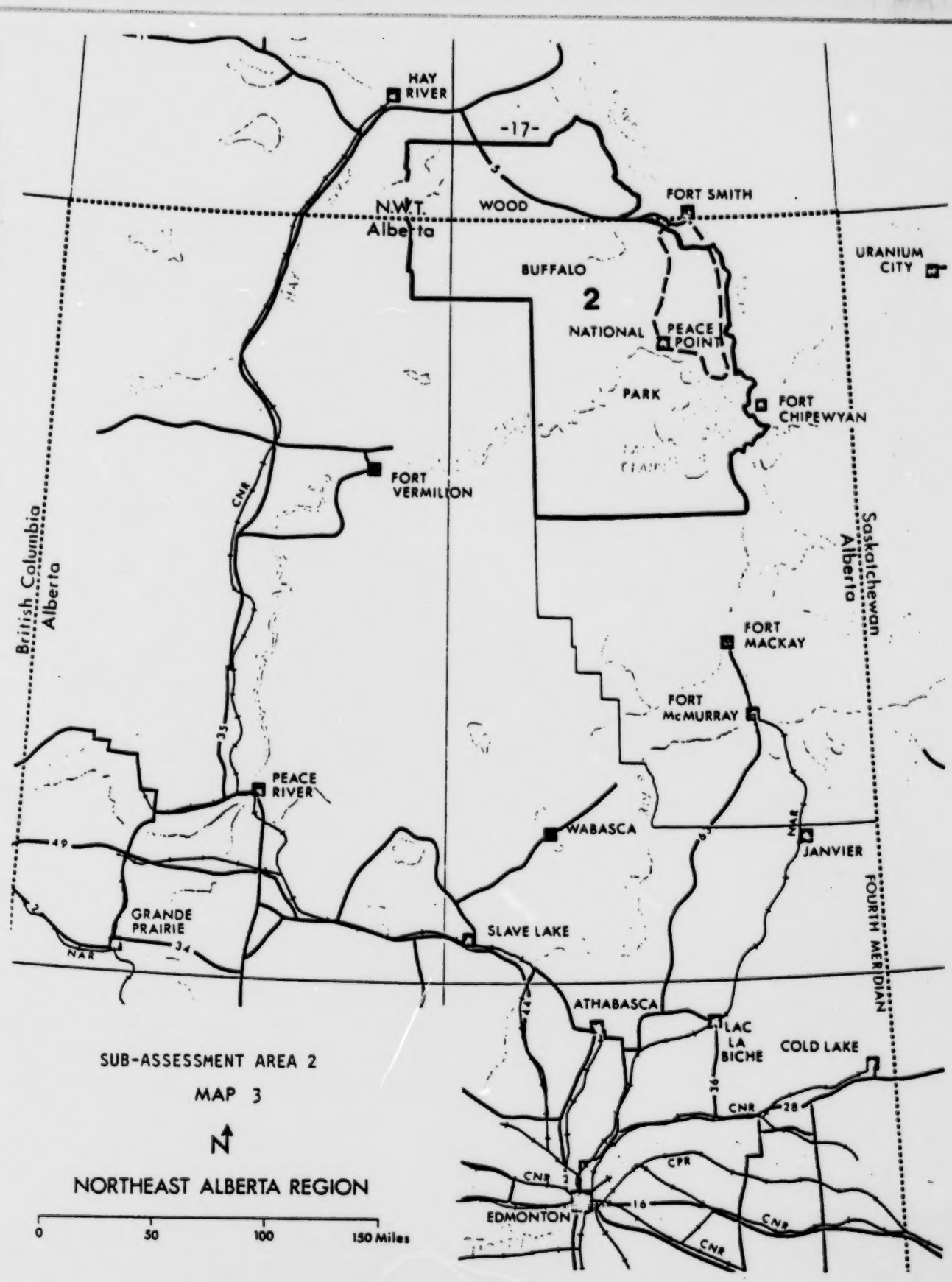
Recreation facilities have been developed primarily to serve the local

resident, and none are of significance to the visitor, although casual use may occur. They include facilities for golf, tennis, baseball, hockey, curling, and swimming. (See Community Services, Appendix B, page 126).

Hunting and fishing is a major contributor to the total volume of tourism receipts in the Northwest Territories. Although the Fort Smith area is not noted for trophy fishing and hunting, the resource base is varied and fairly plentiful. Three fishing lodges in the Northwest Territories and one in Alberta, use Fort Smith as a primary base for guest reception (see Area Appendix B). These operations are fly-in camps, with a season usually running from late May to early October.

Parks Canada offers an interpretive program for visitors to Wood Buffalo National Park. It is designed to help the visitor better appreciate the surrounding resources which are significant to Canada's history and have been preserved relatively unimpaired. The program runs from the beginning of June to the first week in September, consisting of regularly scheduled evening slide and film presentations. In addition, a wide variety of outdoor events are offered including conducted hikes, cave exploration, canoe specials, bison creeps and programs for children.

Six tour operators will include Fort Smith in their 1982 program. A detailed description of the operators and their product is contained in Area Appendix D. Generally, the programs offered are outdoor oriented, and include stops at major urban centres in Alberta, British Columbia, the Yukon, and the Northwest Territories. Interest in this product is increasing, but climate, shortness of season and distance from market-place continue to be constraining factors.


HAY RIVER
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N.W.T.
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WOOD
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PARK
FORT CHIPEWYAN
FORT VERMILION
CNR
British Columbia
Alberta
Saskatchewan
Alberta
FORT MACKAY
FORT McMURRAY
PEACE RIVER
WABASCA
NAR
JANVIER
FOURTH MERIDIAN
GRANDE PRAIRIE
SLAVE LAKE
ATHABASCA
LAC LA BICHE
COLD LAKE
CNR
CPR
EDMONTON
SUB-ASSESSMENT AREA 2
MAP 3
N
NORTHEAST ALBERTA REGION
0
50
100
150 Miles

1.2. Sub-Assessment Area #2 - Wood Buffalo National Park, Alberta/ Northwest Territories

1.2.1. Location and Function

Wood Buffalo is Canada's largest National Park, straddling the Alberta - Northwest Territories border. However, because of it's relative remoteness, and lack of visitor facilities, the park generally enjoys a degree of anonymity among the thousands of visitors who flock to Alberta's principal National Parks of Banff, Jasper and Waterton.

Wildlife protection, particularly for the rare whooping crane, and for the Wood Buffalo, are primary functions. The wetlands and delta ecology in the southeast portion of the park, centering on the Lake Claire region support a multitude of waterfowl and a diverse range of plant and animal communities. The disastrous impact of the Bennett Dam on the Peace River in the late 1960's and early 1970's, is mute testimony to the fragility of this northern eco-system.

The economies and lifestyles of the areas surrounding Wood Buffalo National Park are as yet neither dependent, nor taking advantage of the Park's existence. Only a small number of visitors, primarily from the Northwest Territories, use services and facilities offered by Parks Canada each year.

1.2.2. History and Archaeology

Recent archaeological finds have indicated that the park area may have been inhabited as early as 10,000 years ago, or just after the retreat of the last glaciers from this area. These discoveries also indicate a continuous use of the area from the time the last glaciers receded.

In 1778, the first Euro-Canadian habitation occurred in the area when Peter Pond established a trading post along the Athabasca River. Previously, traders did most of their trading through native middlemen, who obtained furs in regions such as the Wood Buffalo area and then transported them to distant trading posts. As competition increased, a growing awareness of the resources of the area, and the relatively easy water access possible

via the rivers and lakes of the region, attracted explorers, traders, and then missionaries.

In 1789, Alexander MacKenzie travelled down the Slave River on his way to the Arctic Ocean and up the Peace River on his trip to the Pacific a few years later. Simon Fraser also travelled on the Peace River.

In 1870, The Dominion Government became responsible for the administration of Western Canada. One aspect of the new administration was the enactment of the Territorial Game Ordinance (1888), a provision of which prohibited the killing of wood bison. The act, however, was not effective since there was little enforcement. This situation was partially resolved in 1897-98 when Northwest Mounted Police posts were established at settlements in the Wood Buffalo region. The Northwest Mounted Police, who enforced the Game Ordinance and policed miners bound for the Yukon, also obtained information about the bison range and herd size, which they estimated to be only a few hundred head. Based on this information, they recommended the establishment of a permanent bison sanctuary in the Wood Buffalo area.

In the early 1920's, additional surveys to assess the bison ranges, and to determine the size of the herds remaining were undertaken, primarily as a result of economic development pressures in the area. Efforts were renewed to establish a park, and on December 22 1922, Wood Buffalo National Park, containing an area of 10,500 square miles, was created by an Order-In-Council. The new park was placed under the jurisdiction of the Northwest Territories Branch of the Department of the Interior. The Agent for the MacKenzie District, headquartered in Fort Smith, was appointed Park Superintendent.

In 1926, the Government decided to transfer plains bison from Wainwright, Alberta to Wood Buffalo National Park because of overcrowding in the Wainwright bison range. While this decision was questioned by some naturalists, the transfer proceeded and by 1928 over 6,000 head of plains bison had been relocated.

The plains bison did not remain the Hay Camp area where they were released, but moved southward across the Peace River into the Peace - Athabasca delta. This area was not in the park, so in 1926, a 7,000 square mile area south of the Peace River was added to the existing park.

Hunting and trapping activities were originally not addressed in the Order-In-Council which created the park in 1922. However, in 1926, when the park was enlarged, provisions were made to enable the park superintendent to issue hunting and trapping permits, allowing individuals who had previously hunted and trapped in the park area to continue this activity (approximately 119 individuals). The regulations have since been amended several times.

From the 1930's through to the early 1960's, various resource management and development activities were undertaken. These included furbearer habitat improvement and restocking programs, commercial fishing operations on Lake Claire, road construction, lumbering operations along the Peace and Athabasca Rivers and an ongoing program of bison management. In addition, recreational facilities were developed and cottage lots surveyed at Pine Lake, south of Fort Smith.

The various activities were mostly undertaken in an attempt to create a stable economy and provide local economic benefit. These objectives were often not consistent with those for the National Park system, but were pursued since the administration responsible for the management of the park, had, as it's chief task, the promotion and regulation of economic development in the north. Practices in Wood Buffalo were therefore unique in the National Parks System.

By 1959, the Government had become concerned about the peculiar position of the park within the overall Canadian National Parks System. Consequently, the administration for the park was transferred from the Northern Administration Branch in October 1964. By April 1969 all responsibilities related to the park had been assumed by the National Parks Branch.

Since the park has been administered by the National Parks Branch (now called Parks Canada), efforts have been made to bring operations, administration and management practices into conformity with accepted national park policy and practice. Services to park users have been expanded and improved, resource inventory and management programs have been undertaken and additional facilities have been developed for park visitors. Although changes have been made, a number of activities of long standing continue. One of the most significant of these is the continuation of traditional hunting and trapping activities by residents of the area whose ancestors were originally granted this privilege.

Little is known of this park's prehistory, however, stone artifacts found on old occupation sites show that native people have utilized this area for thousands of years.

The history of European man in the park region has passed through several phases including: contact with natives, exploration and the fur trade, settlement and development of the northern transportation network, northern resource development; and conservation and resource protection as exemplified by current parks management. Artifacts such as flint implements and occupation sites reflecting past activities can be found in the park.

1.2.3. Physical and Natural Features

Wood Buffalo National Park is a part of the northern boreal plain of Canada. There are four major landscapes in the park; the Peace-Athabasca-Slave Lowlands, the Slave Plain, the Cretaceous Uplands and the Buffalo Lake Lowlands/Robertson Lake Uplands. Each of these different landscapes support somewhat different communities of plants and animals.

a. Peace-Athabasca-Slave Lowlands

The deep, rich soils of the river valleys and floodplains of this landscape support sedge meadows, willow and alder thickets, mixed forests, black spruce muskegs and pure stands of white spruce. Special features include fossil beds on the Slave River, heavy oil seeps along the Slave and Athabasca rivers and gypsum cliffs along the Peace River. The valleys

support large moose populations while the floodplain lakes and backwaters are excellent habitat for many furbearers and waterfowl.

The Peace-Athabasca Delta is an intricate pattern of smaller coalescing deltas, shallow lakes, marshes, large sedge-willow meadows and old beach ridges. It provides much of the primary bison range in the park. The Sweetgrass area and the nearby Lake One area are major bison calving grounds. Wolves, the most important predator of bison, are also found in the delta. Waterfowl from the North American flyways converge on the delta. Most of the 227 bird species recorded in the park can be found here. One of the most important staging areas for ducks and geese in North America is the Delta. The variety of wetlands support very large populations of furbearers such as muskrat, mink and beaver.

The Salt Plains west and south of Fort Smith, part of the Slave River Lowlands, are sloping aprons of saline earth bordered on the west by a limestone escarpment. In places where saline springs surface, crystalline salt mounds occur. The vegetation of the saline meadows found in this area is characteristic of maritime environments. Shore birds and waterfowl use the plains during migration.

b. Slave Plains

The Slave Plains is an area of glacial till deposits, dune fields and karst lands that extends in a narrow band from the park's northern boundary, through the centre of the park, to the Peace River. The surface sands and till soils support stands of jack pine and aspen which have been maintained largely as a result of fire. The numerous collapse sinkholes, caves, and underground rivers are a result of the limestone and gypsum bedrock being easily eroded by ground water.

Associated with both the Slave River and the Slave River Lowlands is a large area of evaporating ponds and shallow alkaline sloughs. This area, in the northeast corner of the park, is the only known nesting area in the world for the endangered whooping crane. The birds nest here from May until September, before migration to their winter range

along the Gulf of Mexico. The nesting grounds are isolated and inaccessible, except by air. However, because of the possibility of extinction of the Whooping Crane, the nesting grounds are closed to the public.

c. Cretaceous Uplands

Portions of the Cretaceous Uplands, the Caribou and Birch Mountains - lie just outside the western and southern boundaries of the park. They have steep frontal slopes and incised valleys which are surrounded by extensive fans of shale and glacial gravels and soils.

On the plateau surfaces, small herds of woodland caribou are found. Moose are abundant in the muskegs and sedge meadows of the poorly drained lower slopes. Elk were transplanted into the Birch Mountains in the 1950's with limited success. These rugged and isolated uplands also provide relatively undisturbed habitat for animals such as wolverine, otter and beaver.

d. Buffalo-Robertson Lakes Complex

This area is an undulating plain of muskeg, spruce forests, many small shallow lakes, hummocky terrain, vegetated sand dunes, oriented ridges and other landforms created by wind, water and glaciation. It's sandy and silty soils are evidence of former glacial lakes that once submerged this part of the park. The impervious shale bedrock and permafrost have resulted in poorly drainage systems. Surface runoff is trapped in the boggy lakes and saturated soils. In places, the higher relief and sandy soils of the dunes create some local areas with good drainage. Together the overall landscape exhibits a wide diversity of geological and geomorphical features. This, in turn, support sequally diverse communities of plants and animals.

The accumulation of waterfowl in Wood Buffalo National Park, and particularly on Lake Claire and the Peace-Athabasca Delta is one of the greatest spectacles of its kind found anywhere. A large variety of ducks and geese nest in the park, and a multitude of Arctic migrants including murres, auks, and gulls are common visitors in the spring and fall.

This national park is also home to approximately 7,000 buffalo. The wood buffalo, a larger cousin of the plains buffalo, once roamed along the southern shores of Great Slave Lake and as far west as the Liard Valley. However, in 1926, around 6,000 plains buffalo were shipped in from Wainwright, Alberta. As a result, the species now is largely interbred, although most animals retain the dark brown colour characteristic of the wood buffalo. Other mammals common to the park include caribou, moose, bears, wolf, fox, wolverine, mink, marten, weasel, beaver, muskrat, rabbits and squirrels.

The climate of the park area is similar to that of Fort Smith, with short summers and long cold winters. This has to a large degree, inhibited the attractiveness of the park to the southern visitor.

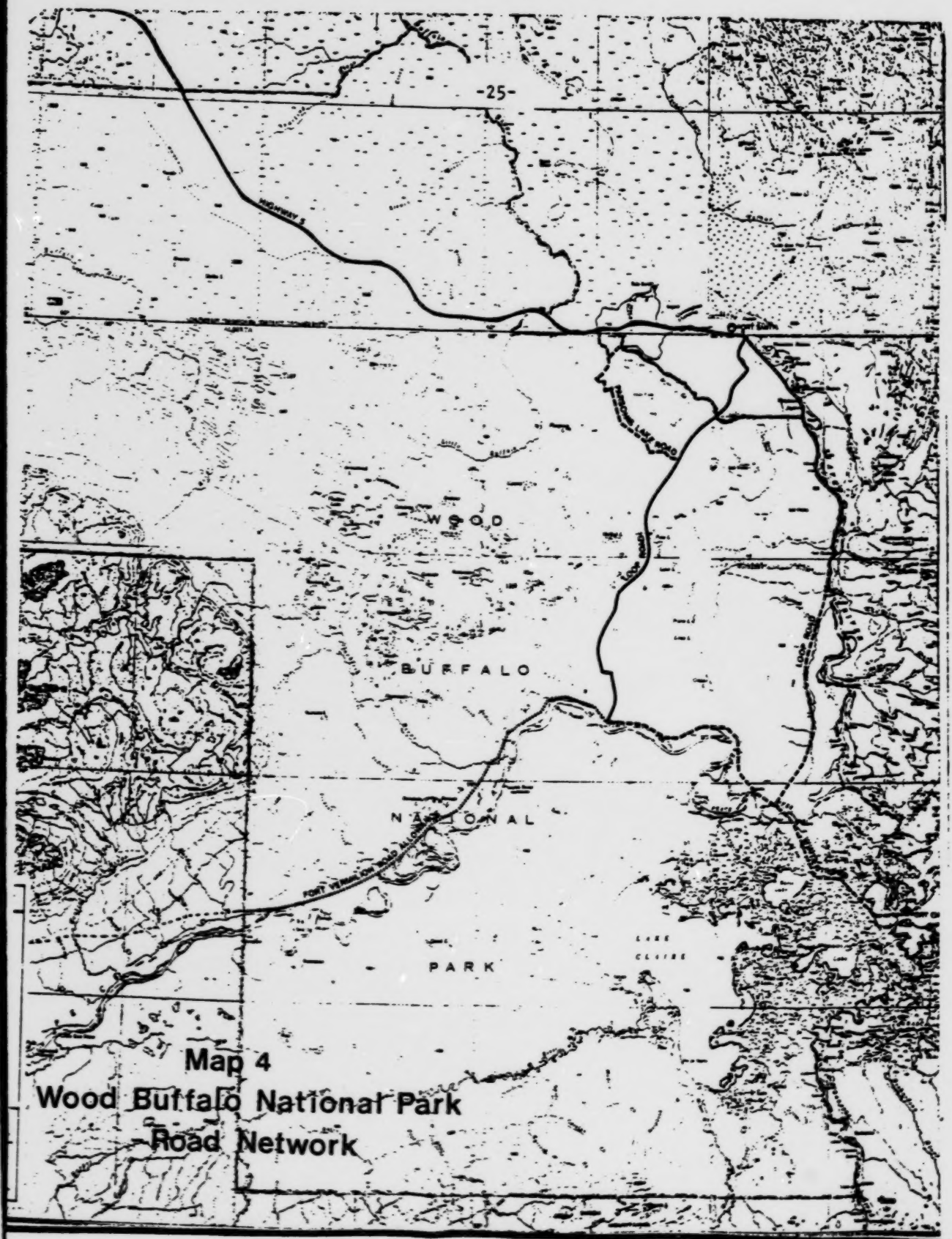
1.2.4. Transportation

Transportation to and from Wood Buffalo National Park is limited to travel by road only. The nearest airports are in Hay River (on the western side) and Fort Smith (on the eastern side) of the park. At present there are a variety of roads within the park, ranging from an all-weather, all-season gravel highway to seasonal roads. The major roads are Highway #5, the Loop Road, and the Winter Road. Seasonal roads include the Parson's Lake Road and the Fort Vermillion-Garden River trail. (See Map #4 on page 25).

Through the northern portion of the park, the highway is predominantly a wide enclosed corridor of repetitive vegetation and relief.

The Loop Road is considered to be the major park road for visitors, and it begins and ends in Fort Smith. It is approximately 320 kilometers around, and is of fairly recent vintage (post 1950's). It's main limiting factors however, relate to the varying degrees of quality, ranging from good all-weather gravel to fair weather sections only. During wet seasons, sections of the road are virtually impassable.

A Winter Road links Fort Smith to Fort Chipewyan, crossing the Peace



Map 4
Wood Buffalo National Park
Road Network

River on an ice bridge. The road is open only after the rivers have frozen sufficiently to allow heavy t·uck traffic, and is closed well before spring break-up.

Other roads in the park are used primarily for warden patrol or fire access, or for winter use only to serve small communities of native people.

1.2.5. Service Sector

There are no commerical or retail facilities in Wood Buffalo National Park. Refer to the Fort Smith area analysis for details on facilities and services meeting the needs of Park visitors.

1.2.6. Hospitality Sector

There are no motels, hotels, or lodges in the park. Fort Smith provides the nearest commerical fixed roof accommodation.

Parks Canada operate a thirty-six site campground at Pine Lake, sixty-four kilometers southwest of Fort Smith. Facilities include potable water, an interpretive theatre, trailer pump-out, change houses, picnic shelter, firewood and chemical toilets. Other facilities at the lake include, hiking trails, group camp, boat launch and dock, warden's cabin and a campground attendant. Reservations are required at the Kettle Point group camp which is open to organized groups of five to fifty persons.

The major visitor centre for the Park is located in the Town of Fort Smith, and is open year round.

1.2.7. Events and Attractions

Wood Buffalo National Parks, by nature of its sheer size, remoteness, and inaccessibility, does not cater to the conventional tourist. It's location is an overall focus for interpretation between two major bio-physical regions of Canada, the Canadian Shield and the Interior Plains.

It's attractiveness however, lies more with the individual whose interests are in conservation, and boreal ecological communities of plants and animals.

The park is lacking in significant landforms, vistas, and viewpoints. Geological formations are limited to those of scientific interest.

The highly endangered status of the whooping crane, and it's need for absolute nesting islolation, precludes any opportunity for visitor interpretation of this species.

The lack of all-weather road systems in the park is a major constraint to visitor movement, particularly with respect to viewing wildlife resources. However, one should not look at Wood Buffalo in the same light as Banff or Jasper National Parks, as its function within the Parks system is significantly different, and it has not been established or designed with the human visitor as a primary focal-point. Its primary function is natural resource management in a wilderness setting.

The vast waterways and wetlands of the Peace-Athabasca Delta, and the staging of hundreds of thousands of ducks and geese in the fall, could effectively be incorporated into the visitor's appreciation and understanding of delta hydrology.

1.2.8. Tourism and Recreation

All tours through Wood Buffalo National Park originate from outside the park's boundaries and primarily use either Fort Smith or Fort Chipewyan an entry-exit points. The content of programs cater mainly to the outdoor/nature enthusiast. (Reference Sub-Assessment Area #1 - Fort Smith and Appendix for description of tour operators and programs).

Within Wood Buffalo National Park, naturalists supply information to the public to enable them to properly plan and prepare for their visit. To provide on-site interpretation, a system of simple displays is being

developed at each of the park's major entrances and at places of heavy visitor use. Trails have been constructed and other potential trails are planned to provide opportunities for self-interpretation.

Interpretive programming is designed both to make people aware of park resources and related issues and to provide visitors with opportunities to explore and experience the park. Evening slide talks are offered in Fort Smith, Fort Chipewyan and the Pine Lake campground. "Bison creeps", guided hikes, canoe trips, cave adventures, winter camping and special children's events all provide the public with the opportunity to appreciate the park first hand. Trails have been developed in the Salt River and Pine Lake areas to provide opportunities for park visitors who wish to explore on foot.

Fishing in the park is generally poor. The Peace-Athabasca Delta has good fishing, but it is critically dependent on the water level of the delta. Major sport fish species found in the waters of the Wood Buffalo National Park are pickerel, northern pike, and walleye. Pine Lake is stocked with rainbow and brook trout, and Rainbow Lake is stocked with brook trout.

The Athabasca River, Lake Athabasca and the Peace-Athabasca Delta, the Slave River and the Peace River all provide power boating opportunities while some of the smaller streams can be used by canoes. Many of the streams in the park do not provide good canoeing opportunities because of their sluggish flow, meandering channels, shallowness, and general inaccessibility. Power boating is generally restricted within the waters of Wood Buffalo National Park.

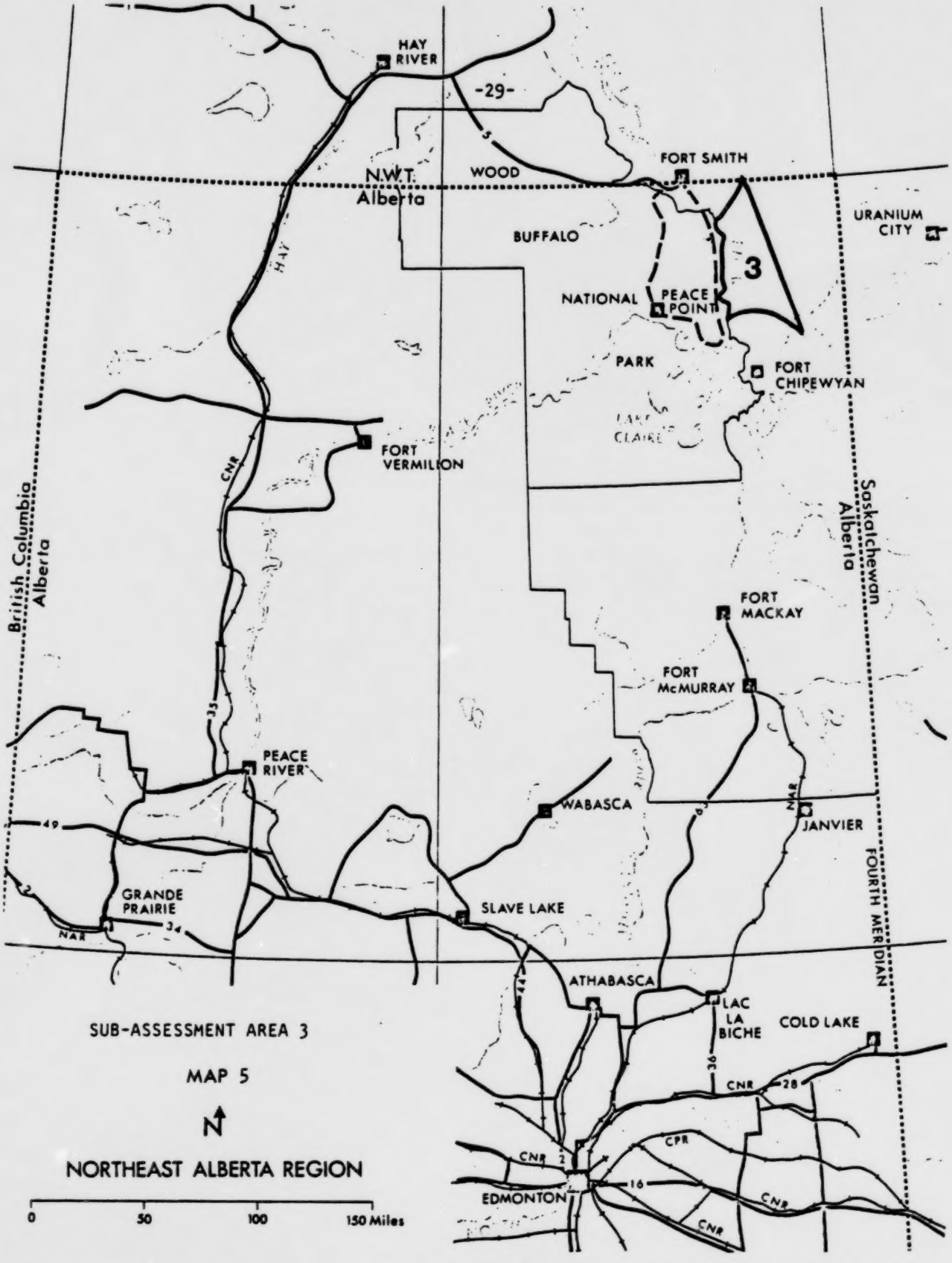
Aside from the facilities at Pine Lake mentioned previously, there are a number of organized camping and picnicing spots throughout the park, including:

1. Salt River Picnic Site; located on the west side of the Loop Road, on the south bank of the Salt River.

2. Cherry Mountain Picnic Sites; located on the west side of the Loop Road.

3. Hornaday Creek Picnic Site; located immediately east of the Loop Road on the south bank of Hornaday Creek.

4. In addition, a new site off Highway #5 at Klewi Lake was completed in 1980.


HAY RIVER
-29-
FORT SMITH
N.W.T.
Alberta
WOOD
BUFFALO
URANIUM CITY
3
NATIONAL PARK
PEACE POINT
FORT CHIPEWYAN
FORT VERMILION
British Columbia
Alberta
Saskatchewan
Alberta
FORT MACKAY
FORT McMURRAY
PEACE RIVER
WABASCA
JANVIER
GRANDE PRAIRIE
SLAVE LAKE
FOURTH MERIDIAN
ATHABASCA
LAC LA BICHE
COLD LAKE
EDMONTON
CNR
CPR
NAR
SUB-ASSESSMENT AREA 3
MAP 5
N
NORTHEAST ALBERTA REGION
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50
100
150 Miles

1.3. Sub-Assessment Area #3 - Fort Smith to Fort Chipewyan and Vicinity

1.3.1. Location and Function

Boundaries of the study area being described includes lands approximately eight to forty-eight kilometers east of the Slave River from the Fort Smith sub-assessment area to the Fort Chipewyan sub-assessment area in northeastern Alberta. The western boundary is the Slave River.

The area is lacking in population, as the communities of Fort Smith and Fort Chipewyan are not included. Inhabitants are scattered as the primary form of human activity is limited to native trapping, hunting and fishing.

The area functions geographically as the transition zone between the Canadian Shield and the northern Boreal Plains, intersected by the water route of the Slave River.

1.3.2. History and Archaeology

Even though there are examples of interpretive history at the northern and southern extremities of this study area, specifically Fort Smith/ Fort Fitzgerald and Fort Chipewyan respectively, it's historical significance relates specifically to the Slave River's use as a transportation route for the fur traders and natives.

1.3.3. Physical and Natural Features

The area adjacent to the Slave River, from north to south, is a wet lowland, considered part of the Great Slave Plain physiographic unit (Bostock 1967).

In general there is an increase in elevation from 195 meters above sea level along the Slave River to 410 meters in the northeast corner of Alberta. Nowhere is the topographical relief greater than ninety meters, and scenic views and outlooks are generally uninspiring.

The lowland is predominantly level and consists of the alluvial flats

of the Slave River bordered by low benches and terraces, which give way to an undulating upland with isolated ridges and low hills. There are few large clearly defined lakes. Slow moving creeks find their source east of the Slave River and wind their way westward towards the Slave. In some instances their course is controlled by the bedrock structure of the Canadian Shield. A series of northeast trending faults crossing the Slave River northwest of Fort Fitzgerald are responsible for the four sets of unnavigable rapids referred to in the analysis of Sub-Assessment Area #1 - Fort Smith.

Historically, before the construction of the Bennett Dam on the Peace River in British Columbia, for a period of about twenty days in early summer the waters of the Peace River were at a higher level than the waters of Lake Athabasca. Riviere des Rochers and Chenal des Quatre Fourches would flow southward into the Peace-Athabasca Delta rather than the normal northward flow into the Slave River. Lake Athabasca formerly experienced an annual average water depth fluctuation of about 1.6 meters.

After construction of the Bennett Dam, summer peak levels decreased by approximately 0.6 meters. This severely decreased the biological productivity of the Peace-Athabasca Delta which depended on the annual flooding. Upon the recommendations of the Peace-Athabasca Delta Group, a weir control structure was constructed at the Little Rapids Site on Riviere des Rochers and on Revillion Coupe to restore lake levels, and also restore the flooding sequences.[2]

Vegetation cover includes most species common to the boreal forest including spruce, poplar, tamarack, jackpine, willow, mosses and sedges. The tree cover is not condusive to commercial logging.

A few wood buffalo, which are found in substantial numbers in Wood Buffalo National Park west of this sub-assessment area, winter in scattered herds in the lowlands immediately east of the Slave River (Fuller, 1950).

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2 Fenco Consultants Ltd., Surface Transportation Corridor Study, Fort MacKay to Fort Chipewyan, Alberta Transportation, Edmonton, Alberta, November 1976.

In historic times large numbers of barren ground caribou passed near Fort Chipewyan on their annual migrations. Today their winter range is generally restricted to the northeast corner of the study area (Thomas, 1969). This is the southwestern extent of the Beverly caribou herd winter range. The upland jackpine forests underlain by lichens are their preferred habitat. Moose frequent areas of dense willow along the Slave River and on the margins of rivers, lakes and bogs throughout the study area. Mule deer occur very sporadically in the area. Black bear are relatively common, especially along the Slave River. Trapping records indicate an abundance of weasel, mink, red squirrel, beaver, and muskrat. Fisher, red fox, coyote, lynx and snowshoe hare are less common. There are small populations of marten, wolverine, wolf, and otter within this sub-assessment area.

Approximately ninety bird species are reported in this sub-region. Diversity of species is greatest in the lowlands of the Slave River and along the north shore of Lake Athabasca focusing on the Athabasca River delta. It serves as a nesting and moulting ground and as a giant staging area for tens of thousands of migratory waterfowl. This study area lies along the edge of the northwest-southeast trending line which marks the northern breeding range limit of a number of parkland and prairie bird species. Conversely the study area is at the southern breeding range limit of such species as the arctic loon, red-throated loon, Caspian tern, and northern shrike.

The major wildlife feature, and the potential source of considerable controversy, is the White Pelican colony on an island in the Pelican Rapids of the Slave River, 3.5 kilometers upstream of Fort Smith. In addition, bald eagle, golden eagle, and peregrine falcon nesting sites are known to exist within the area.

Due to the diversity of bird species in the area, and the relative importance of selected species either due to conservation efforts or habitat variations, there is considerable attractiveness of the area to the professional or amateur ornithologist.

A fisheries survey report entitled "Characteristics of Some Canadian Shield Lakes in Alberta (1977)", classifies the majority of larger lakes in the study area as mesotrophic or oligotrophic. Generally they support moderate populations of fish which are quite slow-growing, but which can attain large size. Northern pike, walleye, lake whitefish, and lake trout are the most common species represented in the Shield lakes. Other species of commercial or sporting interest include yellow perch, goldeye, and arctic grayling. Lake Athabasca supports an extensive commercial fishery.

Winters in the region are long and severe, and summers are short and warm. Climatic records from a weather station established at Fort Chipewyan in 1883 are available (Atmospheric Environment Service , 1883 - present). The Fort Chipewyan January and July mean minimum temperatures are -32° C. and 11° C. respectively, while mean maximum temperatures range from -21° C. to 22° C. Freeze-up in the water bodies occurs in late October and break-up is in early May (Wuetherick, 1971). Precipitation is quite moderate, with the wettest month on average being July.

1.3.4. Transportation

Access is gained through either Fort Smith or Fort Chipewyan, however, there are no roads within the study region. The only reasonable means of travel is by boat in summer and snowmobile or dogsled during the winter. The winter loop road from Fort Smith through Wood Buffalo National Park parallels this area, but is separated by the Slave River, and there are no bridge crossings.

1.3.5. Service Sector

1.3.6. Hospitality Sector

There are no commercial accommodations, retail or service outlets within this study area.

1.3.7. Events and Attractions

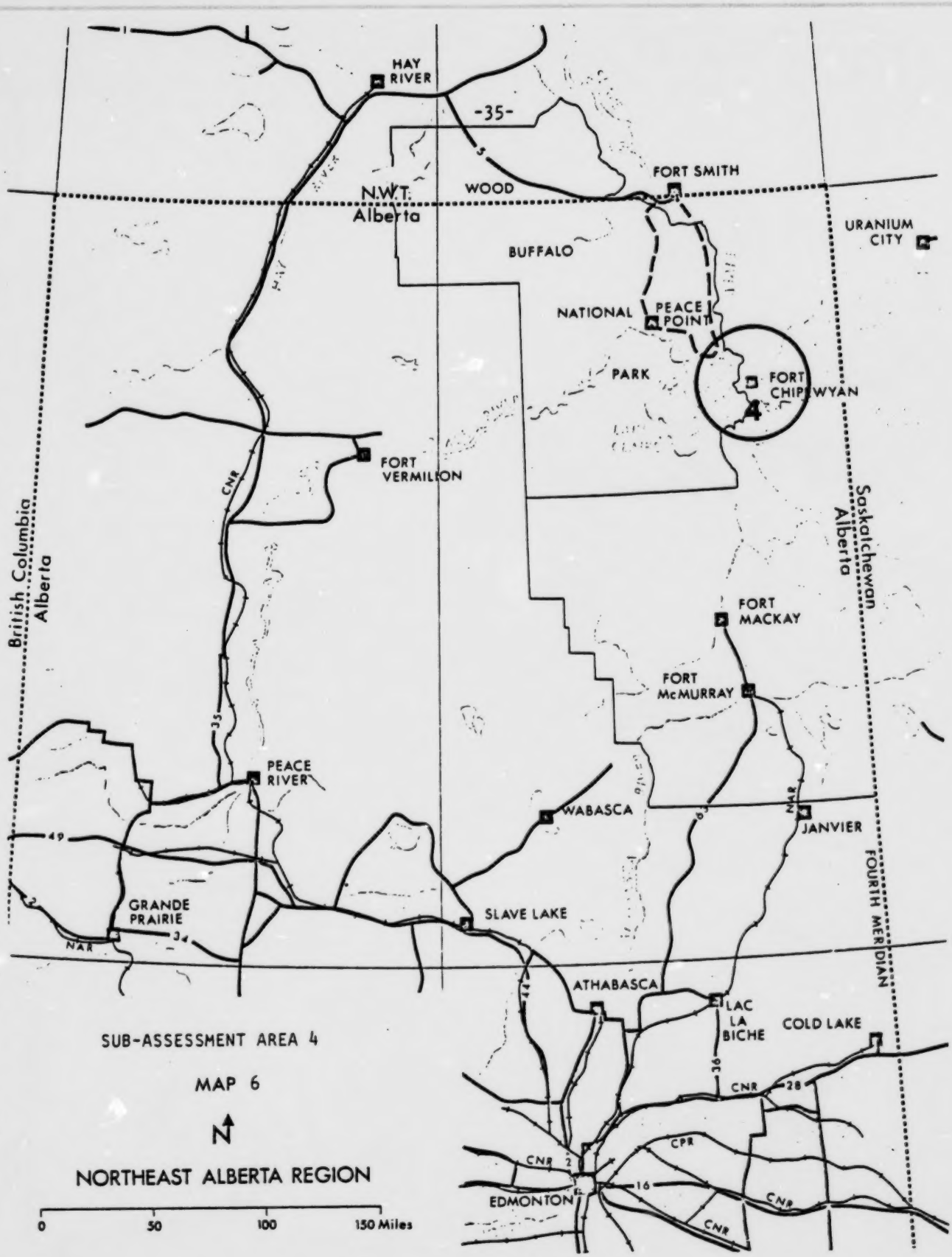
Attractions are limited to the physical and wildlife characteristics

previously described focusing primarily on scientific study of the various bird species.

1.3.8. Tourism and Recreation

Tourism and recreation opportunities or facilities have not been developed to the extent that an individual would be encouraged to make a single purpose visit to the area.

Sport fishing is available, but is primarily oriented to the area south of Fort Chipewyan, or to the east in the Andrew Lake region. Commercial lodges operate in these areas, but generally function as substitutes, rather than compliments to the local fishing resources.


HAY RIVER
-35-
FORT SMITH
N.W.T.
Alberta
WOOD
BUFFALO
URANIUM CITY
NATIONAL PARK
PEACE POINT
FORT CHIPEWYAN
4
FORT VERMILION
British Columbia
Alberta
Saskatchewan
Alberta
FORT MACKAY
FORT McMURRAY
PEACE RIVER
WABASCA
JANVIER
GRANDE PRAIRIE
SLAVE LAKE
ATHABASCA
LAC LA BICHE
COLD LAKE
EDMONTON
FOURTH MERIDIAN
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SUB-ASSESSMENT AREA 4
MAP 6
N
NORTHEAST ALBERTA REGION
0
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1.4. Sub-Assessment Area #4 - Fort Chipewyan, Alberta

1.4.1. Location and Function

The community of Fort Chipewyan is located in the northwest shore of Lake Athabasca, approximately 575 kilometers north of Edmonton, and 160 kilometers south of Fort Smith. It is adjacent to the Peace-Athabasca Delta, and the major outlet of Lake Athabasca, that being the origin of the Slave River.

Fort Chipewyan was founded as a fur trading and transportation centre. However, these two economic generators have declined in importance over the years, and little activity has been generated to take their place as a basis for economic stabilization or expansion. The residents are predominantly of native ancestry. A high proportion of the population are young, unskilled, and possessing only a minimal education. As a result of these factors, there has been a lack of meaningful employment for community residents, and few incentives to participate in the overall Provincial economy.

1.4.2. History and Archaeology

In the 1960's, the Woodland Cree living to the south, used guns obtained from the fur traders at the Hudson's Bay to push the Beaver Indians west away from Lake Athabasca, and to push the Chipewyan Indians north and east of the lake. The Slave Indians who had occupied much of the area west of Slave River and south of Great Slave Lake were forced to retreat to the western end of Great Slave Lake (Matheson, 1974). It was not until the late 1700's, when a smallpox epidemic decimated the Cree Indian population, that the Chipewyan and Beaver Indians were able to regain much of their former territory, and re-settle in the area around the present community of Fort Chipewyan.

Fort Chipewyan was strategically located as the terminus of the major trade routes. The vastness of the rich fur trapping basins of the MacKenzie, Liard, and Peace Rivers, multiplied its importance as a staging area. It was located about as far west as was possible to allow fur-laden

canoes to meet the eastern brigades, and still get home before freeze-up. Its connection via the Athabasca, Clearwater and Churchill river systems allowed for an early spring trip to northern Ontario, as the rivers were generally ice-free about a month before the lakes. The fish and wild game populations in and around Lake Athabasca helped support the food needs of the relatively large staff at this key depot.

Samuel Hearne was the first white man to enter the Athabasca District during a two year exploratory overland journey which left Churchill in December 1770 and returned in June 1772 (Wuetherick, 1971). In 1978, Peter Pond descended the Athabasca River and established Pond's House (Fort Athabasca River) on the west bank of the Athabasca River, forty-eight kilometers south of Lake Athabasca. This was the first fort in the Arctic drainage system and Alberta's first European settlement. Alexander MacKenzie, in charge of the Athabasca region for the North West Company, had his cousin Roderick relocate Pond's House to a point on the south shore of Lake Athabasca in 1788. The new fort was named Fort Chipewyan and became the centre of trade carried on by the Indians in the area. In 1789 and 1792, respectively, Alexander MacKenzie embarked from Fort Chipewyan on his journey to the Arctic and Pacific Oceans. At the same time the first Hudson's Bay Company men in the area, Phillip Turner and Peter Fidler, were surveying and mapping the Athabasca River, Athabasca Lake, Slave River, and some of the south shore of Great Slave Lake. In 1820, and 1825, two arctic expeditions led by Capt. J. Franklin passed through Fort Chipewyan to the north via the Slave River.

The Old Fort Bay on the south shore of Lake Athabasca was the original location of Fort Chipewyan (Fort Chipewyan 1 - 1788). Numerous archaeological and historical sites are located along both the north and south shore of the lake, and some of these have been excavated.

Over the years, the Fort was re-built on three occasions, but always, it served as the major supply and distribution centre for other posts along the Peace and MacKenzie rivers, and Lake Athabasca.

Outside of being a stop over point in the travels of numerous early explorers, it served as headquarters for the Athabasca District, the scene of bitter conflict between rival trading companies. Prominent remains of the fort today are limited to building platforms and several large cellars. The last building if the fort was removed in 1964. A few buildings relating to the later period and the National Historic Sites cairn are located on the granite ridge on the eastern edge of the site.

In 1803 Fort Chipewyan was moved to its present site. One year earlier, Peter Fidler had built a Hudson's Bay trading fort, Nottingham House, on English Island. However, the competition was so stiff that he was forced to abandon it and leave the district to the North West Company. In 1815, John Clarke and the Hudson's Bay Company men returned to Lake Athabasca and built Fort Wedderburn on Potato Island. Forts Chipewyan and Wedderburn were the focal points of the rivalry between the two fur companies for northern trade until 1821 when the North West Company was absorbed by the Hudson's Bay Company. The Hudson's Bay Company ultimately abandoned Fort Wedderburn in favour of Fort Chipewyan.

Another Hudson's Bay Company post, Salt River House, was established during the fur trading era on the Slave River above the rapids. It was later called Fort Fitzgerald (Voorhis, 1930).

The Roman Catholics established a mission at Fort Chipewyan in 1851, and in 1879 an Anglican mission was founded. The Royal North West Mounted Police established posts at Fort Chipewyan and Fort Fitzgerald in the 1880's.

Indian Treaty No. 8 was signed with the Chipewyan Indians in 1899. The Cree Band at Fort Chipewyan chose to retain hunting and fishing rights on their traditional hunting grounds rather than settle on reservations. The establishment of Wood Buffalo National Park in 1922 with subsequent restrictions on hunting, fishing, and trapping resulted in a severe decline in the wildlife resource available to the band.

As history has indicated, Fort Chipewyan was once a major stopping point and trading centre on one of Western Canada's major transportation routes. As other transportation routes and modes developed through the years, Fort Chipewyan's importance decreased.

For a comprehensive list of historical resources of the Fort Chipewyan area, refer to Appendix E, page 144.

1.4.3. Physical and Natural Features

Fort Chipewyan is situated at the western extremity of the Canadian Shield. While the community sits on solid rock, the northern boreal plain stretches out immediately to the west and south. The Peace-Athabasca Delta and Lake Athabasca dominate the landscape. From the air, the Delta area can be seen as a silty fan extending several miles out into the lake. This contributes to very shallow water, and is a focal attraction for the thousands of geese and ducks who stage on the Delta during the spring and fall migrations. The Delta hydrology has been the subject of intense scientific study since the construction of the Bennett Dam on the upper Peace River. The lowering of the water table and disastrous effect on plant and animal communities, and recovery of their populations to pre-dam days is not yet complete. A more complete description of the Delta is found in Sub-Assessment Area #5.

A number of plant species uncommon to Alberta are found in the Fort Chipewyan area, including the rare American Dune Grass.

The climate of the area is characteristically cold during the long winter, and warm during the short summer. However, Lake Athabasca effectively creates a micro-climate situation making comparisons with other sub-assessment areas more difficult. Mean minimum and maximum temperatures throughout the year are similar to those in Fort Smith.

1.4.4. Transportation

Fort Chipewyan is relatively isolated from most modern transportation routes as there are no all-weather roads serving the community. The

only public scheduled passenger transportation to Fort Chipewyan is provided by Pacific Western Airlines which operates three flights weekly. These flights also carry freight and provide the only means of transporting fresh fruit, vegetables, meat and other perishable items into the community. In 1979, Pacific Western Airlines carried 6,300 passengers into and out of the community, with an average of 40 persons per flight.

Seasonal access is provided by means of a winter road to Fort Smith, and summer barges to Fort McMurray, Alberta and Uranium City, Saskatchewan. There are periods during break-up and freeze-up where aircraft are the only means of getting either people or freight in and out of the community. Outside of the scheduled air service, there is one local charter air service, and land and float-equipped operator.

Fort Chipewyan is unique in Alberta because it is the only community which receives most of it's freight tonnage by water transportation. The Northern Transportation Company Ltd. operates a barge service between Fort McMurray, Fort Chipewyan and Uranium City, from mid-May to the end of September, weather permitting. These water routes along the Athabasca River and Lake Athabasca are also used by pleasure boaters in the summer and snowmobiles in the winter. (See Appendix A, page 124).

1.4.5. Service Sector

Fort Chipewyan has a limited number of services to meet the needs of the visitor. Retail outlets are few, and selection of goods is quite restricted. Medical facilities are limited to a federal health care centre providing out-patient service only. The nearest hospital is in Fort McMurray, 216 kilometers south. In an emergency situation, an air ambulance must come from Fort McMurray causing considerable delay.

Local police protection is provided by the Royal Canadian Mounted Police. A small number of churches, service clubs and civic organizations are found in the community including a local Chamber of Commerce, handicraft club, and a community association. (See Community Services, Appendix B, page 130).

1.4.6. Hospitality Sector

Facilities catering to the needs of the traveller are limited. There are two motel-like accommodation facilities, offering a total of approximately fifteen rooms. Three restaurants and three grocery outlets provide the food needs for the community and for visitors.

The only campground, is an Alberta Forest Service campsite, ten kilometers northeast of Fort Chipewyan at Dore Lake, with ten overnight camping sites. (See Accommodation Facilities, Appendix C, page 138).

1.4.7. Events and Attractions

The only known local event is the Fort Chipewyan Rendezvous which is a winter festival celebrated in March of each year. Events include numerous sporting activities such as cross-country skiing, dogsled racing, snowshoe racing, trapper contests.

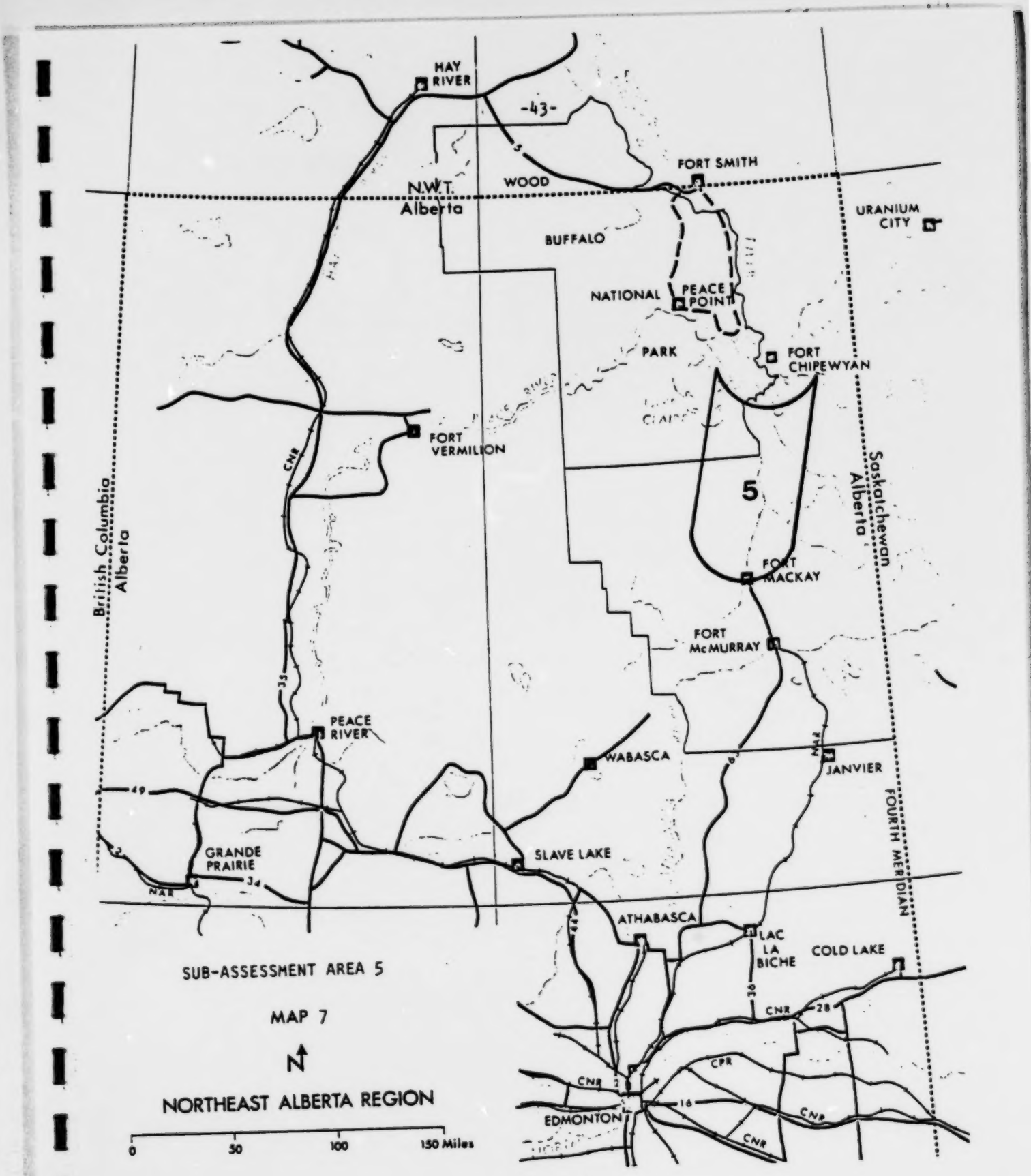
Lake Athabasca, only a portion of which lies in Alberta, marks the approximate southern boundary of the exposed portion of the precambrian shield. It is massive in size, and highly diverse in its shoreline topography, ranging from sandy beaches to cliffs where peregrine falcons nest. The lake is subject to strong winds and cool, rough water conditions. The north shoreline varies considerably along its length, from extensive wetlands west of Fort Chipewyan to extensive stretches of sandy beaches interspersed with thickly forested, gentle slopes near the Saskatchewan border. Significant embankments occur in the shoreline at Fidler Point and in the vicinity of Grey Will Point. There is a sand spit at Sand Point which juts approximately three kilometers into Lake Athabasca. Two low lying islands located about ten kilometers from shore, Bustard and Burnt Islands, have extensive sand deposits, wetlands, and backshore lagoons. Tree cover along the north shore varies from white-spruce forests to more common areas of jackpine-lichen, and pine and aspen forest. The south shore of the lake is characterized by lower relief, wetter backshore, but also extensive sand beaches in some areas.

1.4.8. Tourism and Recreation

The Delta area, and its waterfowl concentrations offer an attraction of natural significance to the scientific or nature oriented visitor. Hunting is allowed in regions outside of Wood Buffalo National Park, but is primarily carried on only by local residents.

Sport fishing is an underutilized resource in the Fort Chipewyan area. Most fishing activity is of a commercial netting variety. Exceptionally large specimens of northern pike and walleye are known to inhabit the waters around the community.

A local tour operator presently offers trips into Wood Buffalo National Park and vicinity. Attempts have been made in the past to develop wilderness oriented visitors program, but they have not met with any degree of success. (See Appendix D, page 142).


HAY RIVER
-43-
FORT SMITH
N.W.T.
Alberta
WOOD
BUFFALO
URANIUM CITY
NATIONAL PARK
PEACE POINT
FORT CHIPEWYAN
FORT VERMILION
CNR
British Columbia
Alberta
Saskatchewan
Alberta
5
FORT MACKAY
FORT McMURRAY
PEACE RIVER
WABASCA
JANVIER
FOURTH MERIDIAN
GRANDE PRAIRIE
SLAVE LAKE
ATHABASCA
LAC LA BICHE
COLD LAKE
CPR
EDMONTON
SUB-ASSESSMENT AREA 5
MAP 7
N
NORTHEAST ALBERTA REGION
0
50
100
150 Miles

1.5. Sub-Assessment Area #5 - Fort Chipewyan to Fort MacKay

1.5.1. Location and Function

This sub-assessment area is bounded on the west by the Birch Mountains, on the east by Kettle Lake - twenty to thirty kilometers east of the Athabasca River - on the north by Fort Chipewyan and the Peace-Athabasca Delta area and on the south by Fort MacKay. The study area from Fort MacKay to Fort Chipewyan covers a distance of approximately 213 kilometers.

Since this sub-assessment area would be the least impacted by the hydro project, the level of description has been limited to providing the reader with an overview. Additional detailed work would be more justifiable as it relates to the oil sands development in the Fort McMurray and Fort MacKay area.

1.5.2. History and Archaeology

Historic sites in the area date from the early 1700's and are associated mainly with the early fur trade. Prehistoric sites are considered to be those existing before 1700, and are associated with North American aboriginal man. Such sites have tremendous scientific and research significance, and also have great appeal as tourist features when properly developed, managed and offered as part of a tourism package.

Due to the relative inaccessibility of the area, very few field surveys have been undertaken. There have been surveys along the Athabasca River from Fort McMurray to Fort Chipewyan dealing mainly with fur trade outposts and sites, but little prehistoric research has been done along the river, and none at all has been done in the area inland on either side of the river. The sand dunes region is expected to contain a number of prehistoric sites.

From the literature researched (Nicks, 1970: Smythe, 1968), sixteen sites of historic or prehistoric significance have been delineated. The most important sites appear to be the Bitumont Oil Sands Refinery, Old Fort Point fur trade posts, and forts and buildings of the fur trade

period located around Fort Chipewyan. A detailed description of these sites is found in the Appendix E, page 144.

Many outposts and forts of the early fur trade are located along the major waterways of western Canada, and especially along those included in the area under study. These outposts grew out of the bitter competition between the Hudson's Bay Company and the North West Company in the period 1800 - 1821. Where one company established a post, the other immediately tried to counteract the influence of the first by building its own post nearby. This trend toward duplicate facilities is very evident in the Fort Chipewyan area and also, to a lesser degree, near Bitumont.

1.5.3. Physical and Natural Features

There are several unique physical and natural features of this study area, which offer considerable future potential for the tourism industry. The Delta Sand Dunes, and Tar Sands deposits stand out as unique features within and adjacent to this region.

a. Peace-Athabasca Delta

The Peace-Athabasca Delta is one of the largest inland deltas in the world, covering an area of approximately 3,900 square kilometers. The westerly ninety-five kilometers of Lake Athabasca has been wholly or partially filled with sand and silt over the 10,000 years since the Laurentide ice body of the Wisconsin era receded. While the Peace River portion of the delta is now inactive, the Athabasca River continues to broaden the size of the siltation area on the southwestern shores of Lake Athabasca.

Delta environments are critically linked to repeated annual flooding, which checks the inevitable sequence of plant succession which would turn the delta from marshland to coniferous forest.

in 1968 the Bennett Dam at Hudson Hope, British Columbia, reduced and regulated flows in the Peace River at its confluence with the Athabasca system. Concern over the effects of reduced water levels on the ecology

of the delta region sparked a flurry of research, resulting in a wealth of scientific data on the hydrology and ecology of the delta.

The major and overriding factor which emerged from the Peace-Athabasca Delta Study was that the hydrological balance of the delta must be maintained as closely as possible to the natural water levels and drainage patterns prior to 1968, if plant and animal communities were to avoid serious negative impacts to their habitats and populations. A weir was constructed on Riviere des Rochers and a control structure being constructed on Revillon Coupe are attempts to maintain these water levels.

In broad terms, the natural hydrological cycle of the delta can be summarized as follows:

i) Lake Athabasca receives the annual runoff from its tributary rivers, mainly the Athabasca and Fond du Lac.

ii) Lake Athabasca stores this water during the summer months. It drains into the Slave River to the north via the Riviere des Rochers and the Chenal des Quatre Fourches.

iii) The extent to which water is retained within Lake Athabasca reservoir, and the rate at which it drains, depends largely on water levels in the Peace River. If these levels are sufficiently high, annual flooding vital to the ecology will occur in the delta. The prolonged loss of annual flooding of Lake Athabasca will have harmful effects on the delta, as will the reverse situation of rapid, excessive or prolonged flooding.

iv) The flooding of the delta usually occurs in June or July. By late summer, water drains out of the lake and continues to recede until minimum levels are reached in March. The Riviere des Rochers carries ninety percent of the outflow from Lake Athabasca, the remainder being carried out by Chenal des Quatre Fourches. The water normally flows north in these channels toward the Peace River, but reverses its direction if the water level in the Peace rises higher than

the level of Lake Athabasca. During most springfloods, as mentioned, the water level of the Peace River has risen sufficiently to retard, or even reverse the flow out of the Lake Athabasca, resulting in a back-up storage of water in the lake which, in turn, spills out to flood the delta. If spring flood waters are held in the lake, the delta will be inundated. If, on the other hand, these waters are permitted to flow rapidly out of Lake Athabasca, very little flooding occurs on the delta.

The Peace-Athabasca Delta contains a very complex series of seral communities which depend on periodic flooding to maintain their existence. In general, there are nine different successional communities as one moves from open water to higher ground:

1. emergents
2. mud flats
3. immature fens
4. sedge meadows
5. marsh reedgrass meadows
6. low shrubs
7. tall shrubs
8. deciduous communities of balsam poplar and birch
9. coniferous white spruce communities

The Delta is one of the great staging areas for waterfowl in North America, and an important producer of dabbling (pond) ducks. About 85,000 birds, mostly mallards and pintails, are hatched annually in the delta. During dry years on the prairies, waterfowl move farther north to the delta to nest. In these years, 250,000 or more originate in the delta.

As well as being a major duck producer, the delta acts as a major staging area during migrations of geese and whistling swans. Mamawi, Galoot, Richardson, Limon and Frezie Lakes are also important staging areas. The rarer Ross' Goose occurs on the mudflats and feeds in surrounding marshes between migrations.

Waterfowl favour the small marshes, bays, lakes, inlets and channels for nesting rather than the open expanses of Lake Claire, Mamawi Lake or Richardson Lake.

b. Athabasca Sand Dunes

One of the natural oddities in this study area is the Athabasca Sand Dunes. This is an area of active, semi-active and paleo sand dunes in the vicinity of the Richardson and Maybelle Rivers about 90 kilometers south of Fort Chipewyan, and 160 kilometers north of Fort McMurray.

Two separate areas exist in close proximity to one another. A 90 kilometer^2 area north of Barber and Larocque Lakes contain active transverse dunes. These freely moving dunes are directed by northwesterly winds and are spilling across a landscape of high kames, lakes, muskeg and jackpine-lichen forest. A 182 kilometer^2 area of stablized longitudinal and parabolic paleo-dunes exist west of the Richardson River. These were created by winds blowing from the opposite direction. The active dunes are rare for inland humid regions, and the paleo-dunes have international scientific significance. Together these areas are very representative of the Athabasca South Section of the Boreal Forest Region. The area also contains several rare plant species with no previous record in Alberta.

Alberta Provincial Parks has embarked upon a detailed analysis of the site, in the hopes that it will become a designated Ecological Reserve. This could lead to expanded visitor opportunities, although classification of the site would fall under the Wilderness Reserve Act, which would significantly reduce the degree of human intrustion allowed.[3]

c. Tar Sands

The Athabasca Tar Sands extends for some distance north of Fort McMurray, to the confluence of the Firebag and Athabasca Rivers, approximately 100 kilometers south of Fort Chipewyan. The development of the Alsands

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3 Paul Skydt, Alberta Recreation and Parks, February 16 1982.

project near McClelland Lake could have spin-off effects to Fort Chipewyan, linking the Tar Sands, the Sand Dunes, and the Delta into a package of natural phenomena for visitor interpretation, as all have a national, and to some degree, international significance. The Alberta Government has conducted feasibility studies of developing interpretive programs for tar sands extraction in the Fort McMurray area. Should the Alsands project become a reality, there is a possibility that similar programs will be incorporated into that site.

Peregrine falcons are known to nest along the Athabasca River and in the Peace-Athabasca Delta. Bald Eagle and Osprey are frequently observed as breeding pairs as well. Whooping cranes pass through the area as migrants on their way to Wood Buffalo National Park nesting grounds. White Pelican colonies presently exist just to the south of this study area, on Namur Lake. A high moose population occurs in the south part of this sub-assessment area, while wood buffalo occur throughout the Delta area, primarily within the Park.

The Peace-Athabasca Delta provides the finest muskrat trapping in Alberta. in a 1971 census, 40,000 muskrats were calculated to exist in the delta with the highest concentrations occuring on the Chipewyan Indian Reserves (Ambrock et al, 1972).

Many of the lakes within the Indian Reserve are of sufficient depth to ensure muskrat survival, but the natives in the area were fearful that lowered water levels resulting from the closing of the Benentt Dam would reduce muskrat habitat. This appeared to be the case as an apparent population reduction of over 70% was noted by 1971, and an increased population has been noted as water levels have improved. This improvement is probably due to both natural and man-made causes, but it is felt that management techniques are still required to maintain the water levels.

The beaver is the most significant furbearer south of the delta and is widespread, living in nearly all the smaller streams and creeks of

the area where aspen is readily accessible. In the tributary streams of the Athabasca River, beaver are trapped in winter and shot in the spring (Boucher, 1973).

The climatic conditions of this area are similarly characterized by long cold winters, and short warm summers. However, some moderation of temperatures and frost free season occurs compared to the northern portions of the study area. Recorded temperatures have ranged as low as -57° C. to highs approaching 38° C.

1.5.4. Transportation

Air transportation to this sub-assessment area is limited to charter aircraft or helicopter from Fort McMurray, Fort Smith or Fort Chipewyan.

No permanent road exists in the area, however there is a winter road beginning at Bitumont north of Fort MacKay which extends to Ecological Area #399 where it divides into two routes. One route travels northeast to Old Fort Point and the Goose Island Vicinity. The other route, after its diversion from the main route, travels northwest to the Kenny Woods vicinity along the border of Wood Buffalo National Park.

Water transportation in this study area is limited to travel along the Athabasca River. The Northern Transportation Company Ltd. operates a barge service between Fort McMurray, Fort Chipewyan, Alberta and Uranium City, Saskatchewan from mid-May to the end of September, weather permitting. This water route along the Athabasca River is also used by pleasure boaters in the summer and snowmobilers in the winter.

There is no railroad, bus, truck service, or other public carrier operating in this sub-assessment area.

1.5.5. Service Sector

1.5.6. Hospitality Sector

There are no communities located within this sub-assessment area, nor are they any fishing or hunting operations. Consequently, this area is void of facilities and services of a retail or commercial nature.

Fort Chipewyan and Fort McMurray are the closest communities providing these requirements.

1.5.7. Events and Attractions

The only known event occuring through this area is a yearly cavalcade of snowmobilers. During winter, proponents of the Muffaloose Trail, a road to the north, stage a snowmobile cavalcade between Fort Smith and Fort McMurray. The return trip is 960 kilometers.

Key attractions include those physical and wildlife resources referred to previously. The Peace-Athabasca Delta, and the Athabasca Sand Dunes offer the greatest promise for future visitor enjoyment, but will still appeal primarily to those interested in either scientific study, or conservation/nature enthusiasts.

1.5.8. Tourism and Recreation

Presently, there are no facilities, attractions or events in place or sufficiently developed to stimulate travel to the area. However, this region and lands adjacent to it offer the greatest potential to future development of the tourism industry because of it's natural resource amenities. Recreation is limited to hunting and fishing, with snowmobile and boating activities being of minor importance.

2. Marketing Characteristics of the Region

The region has been given a fairly detailed analysis on the basis of resources and facility assessments in five sub-regions. However, it is difficult to apply the same geographic or locational factors when considering the type of visitor presently coming into the area or the characteristics of future visitors. Evaluation of development or usage of certain types of activities, facilities, services, and natural resources to meet the needs of the business and pleasure traveller must be done on an entire study area basis because of relatively homogenous attractions and lack of individual tourist data. It should also be noted that while a variety of visitor data exists for Alberta and the Northwest Territories, it has been found that very little is applicable or relevant to the study area. What limited data does apply, is statistically insignificant in making directly relevant statements, as the sample sizes are extremely small. Therefore, in many instances, the consultants have relied on their professional judgement, which incorporates on site visits to the study area, and discussions with local residents and the business community. Assumptions on the marketplace are based on travel characteristics and patterns of visitors to either comparative areas, or comparative resources.

Specific information has been included in the analysis, where available and applicable. In many cases this information has been obtained from airlines, motel and hotel operators, tour operators, and government agencies, who are both familiar with and actively involved in the economic and social fabric of the study region.

2.1. Alberta Residents Travel Within Alberta

As the nearest and most financially affluent travel market is Alberta, representative data from the 1976 Alberta Travel Survey - Cordon Study, and the Alberta Tourism Handbook, Volume I - The Travel Market - 1978, has been utilized to represent the conventional tourist.

The propensity for Albertans to travel by car (almost 90% of all travel)

and their utilization of motel style accommodation as opposed to campground accommodation, reduces the study area's ability to attract the Alberta tourist trade, as it is lacking in roads, motels, hotels, and campgrounds of the type used by most travellers.

In looking at the following table, it is apparent that the favourite pastime of Albertans is visiting friends and relatives, followed by outdoor recreation. This again has relevance to the five sub-assessment areas, as a very small population, and lack of developed outdoor recreation opportunities are negative factors when attempting to cater to the principal market's primary interest or activities.

Table I

Activities Participated in by Albertans

Outdoor recreation	29%
Sports, festivals/special events	6%
Sightseeing	13%
Cultural activities/entertainment	6%
Convention/meeting	13%
Wedding, funeral/family reunions	8%
Visiting friends and relatives	36%
Other	24%

Source: Traveldata International, Alberta Tourism Handbook, Volume 1; The Travel Market 1978, July 12 1978.

During winter months, Albertans are primarily weekend travellers within their own province, with skiing being the major activity. However, temperature is directly relevant to participation in outdoor activities such as skiing. Ski area operators in Banff and Jasper report a considerable reduction in skiers on the slopes when temperatures are below -20° C.[4]

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4 Discussion with Ski Area Managers at Lake Louise and Marmot Basin, Alberta, January 1982.

This has relevance to attracting the conventional tourist to Northern Alberta and the Northwest Territories during the winter months, where temperature is a consideration in the type of activity being pursued.

The closest parallel that can be drawn from an analysis of Alberta resident travel patterns, is to examine the northern region of the province, comprising four travel zones known as: (See Map #8 on page 55).

- Game Country
- Land of the Mighty Peace
- Land of the Midnight Twilight
- Lakeland

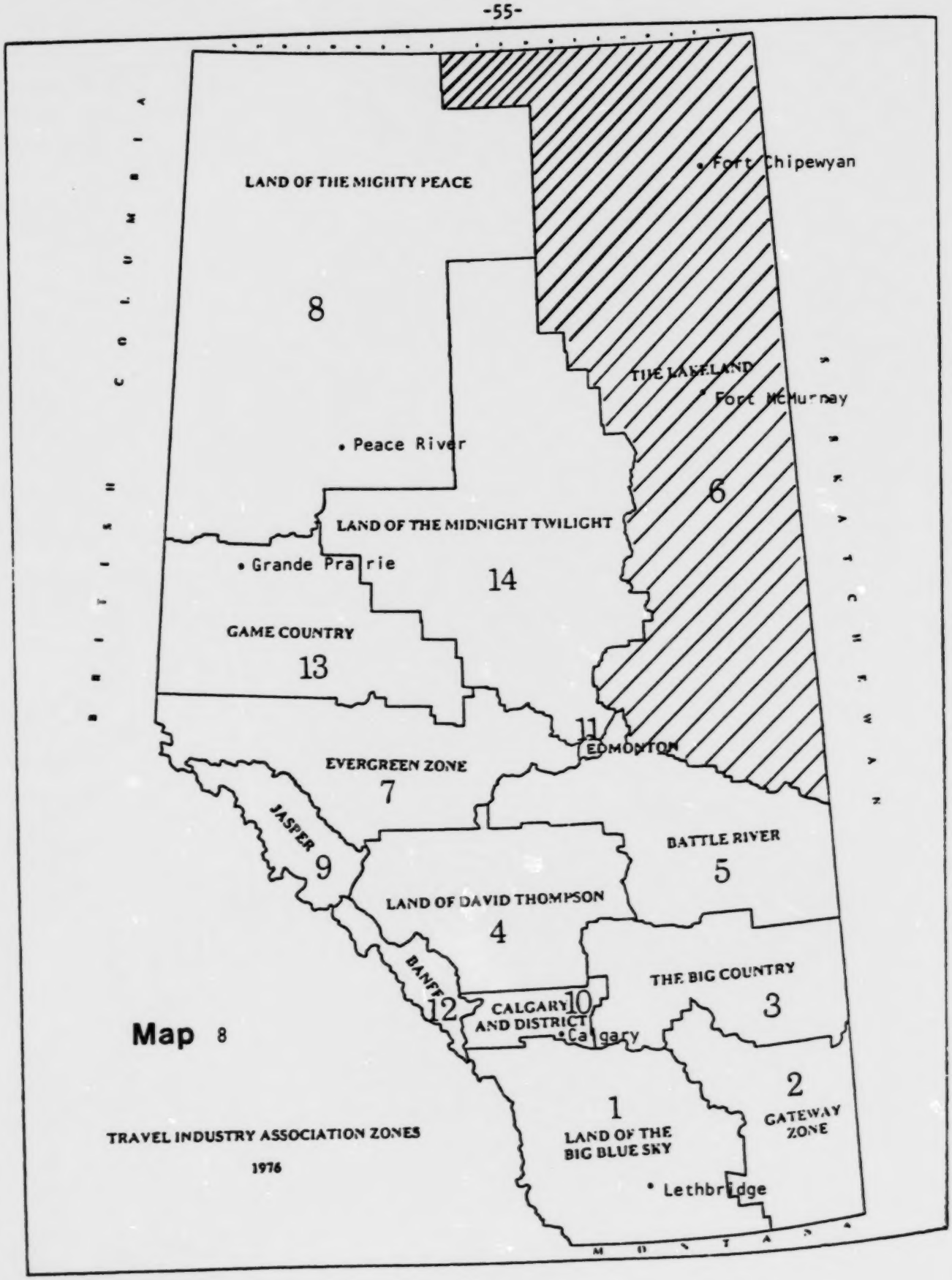
The Lakeland region represented 6% of total travellers surveyed in the 1976 and 1978 Alberta travel surveys. Of that 6%, 46% had a primary travel destination in the Lakeland. However, due to the size of the Lakeland Zone, it has not been broken down as to how far north visitors ventured during their travels.

Based on all overnight visitors, the northern zone appears to function more as a secondary than primary destination. A high ratio of day trips is indicated by an examination of expenditures:

Meals and refreshments	19%
Auto expenses	21%
Lodging	12%
Other goods and services	25%

As reflected in the lodging expenditures, 58% of the visitors stayed in private homes. Among the commercial accommodations, campground/trailer sites attract 36%, motels 29%, and hotels 15%.

The types of trips are primarily for vacation reasons at 60%, followed by business travel at 27%, and personal at 10%. The main reason to travel to the northern zone is to visit friends and relatives, 33%, followed by business at 21%. The remaining 46% is divided between sightseeing, shopping, attending special events and attractions. Participating


LAND OF THE MIGHTY PEACE
8
• Fort Chipewyan
THE LAKELAND
• Fort McMurray
6
• Peace River
LAND OF THE MIDNIGHT TWILIGHT
14
• Grande Prairie
GAME COUNTRY
13
11
EDMONTON
EVERGREEN ZONE
7
JASPER
9
BATTLE RIVER
5
LAND OF DAVID THOMPSON
4
BANFF
12
CALGARY AND DISTRICT
10
• Calgary
THE BIG COUNTRY
3
2
GATEWAY ZONE
1
LAND OF THE BIG BLUE SKY
• Lethbridge
Map 8
TRAVEL INDUSTRY ASSOCIATION ZONES
1976

in sporting activities, especially fishing, is popular by residents of the Lakeland Zone. Private vehicles are used by most visitors to the northern zones, 88%, with trucks usually popular. Decisions to travel to northern zones are usually made within a month or two of departure.

Few Northern Zone travel parties, only 1%, travel with organized tour groups. This may be the result of a lack of bus tours or air tours, accommodation facilities, combined with a lack of sightseeing opportunities which are part of most tour group itineraries. On a preliminary analysis basis, given the habits and characteristics of resident Albertans, there would be difficulty in attracting more than the existing volume of non-business visitors into the study area with the present level of development and visitor opportunities, namely lack of transportation access, facilities and events. This does not mean this potential market cannot be tapped to a greater extent.

Albertan's desire for outdoor recreation opportunities, and their significant proportionate expenditure in the area, are the basis for some degree of optimism for this region to capture a greater share of the Alberta market.

2.2. Non-Resident Travel Within Alberta

In the past, Alberta has had the ability to attract a high proportion of its visitors from other provinces. For example, in 1971 the other provinces in Canada received 35% of their vacationers from other provinces, while Alberta's share from other provinces was 71%. The majority of Canadian visitors to Alberta travel by car (61%), by air (20% - a decline from 35% in 1976), by train (6%), and by bus (7%).

In spite of Alberta's well known vacation attractions, as many as 64% of all trips to Alberta by Canadians are to visit friends and relatives. This is in addition to the 44% of Albertans who visit friends and relatives within the province, who account for a significant portion of travel to and within the province. This is reflected in the fact that 43% of those travelling in Alberta stay with relatives and 21% with friends.

Non-resident travellers to Alberta account for 19% of all visiting travel parties, but their expenditures account for 38% of total revenue. The majority of trips, 82%, are made in the spring and summer seasons, 10% in the fall and 8% in the winter, primarily for ski vacations in the mountains.

Trips originating from other provinces to Alberta average three weeks in duration with an expenditure of $801.00 per party, an average of $38.00 per day. For comparison, residents of Alberta vacationing in Alberta average 10.9 nights and spend an average of $336.00 per party, or $31.00 per day.

Alberta tends to appeal to all age groups and attracted 4% of all United States visitors staying one or more nights in Canada. The origin of United States auto visitors is spread quite evenly across four regions -- Pacific 25%, Mountain 21%, West North Central 15%, and East North Central 19%. Alberta's share of offshore visitors is approximately 6%, of that the main contributors are; the United Kingdom 22%, Germany 20%, and Netherlands 10%.

British Columbia residents account for 30% of non-resident visits to Alberta, followed by Saskatchewan 18%, and all other provinces combined at 23%. The balance originate from the United States and other countries; 26% and 4% respectively.

During the fall and winter, there is a tendency for the United States share of traffic flow to diminish, and the relative importance of Saskatchewan to increase. This is due to the changing nature of trips, in that fall and winter trips are more business oriented and less vacation oriented, with the exception of winter ski vacation travel.

Even though business travel to Alberta has increased dramatically, between 1966 - 1976, vacation travel to Alberta still dominates. The reason for visiting Alberta are broken down into "non-pleasure" and "pleasure oriented" reasons. Non-pleasure including visiting friends

and relatives (21%), personal reasons (12%), and business (11%). Pleasure oriented activities include sightseeing away from cities and towns (15%), camping (5%), sporting activities (6%), sightseeing in cities and towns (7%), and attending special events and attractions (5%). The most glaring characteristic of non-resident visitors to Alberta is that 60% spend three nights or less in the province.

In summary, the closest market offering the greatest potential for the tourism industry of the study area is Alberta. Non-resident travel to the north country would require some form of significant attraction, event, or opportunity to be stimulated. An expanded population base may have the spin-off effect of creating more visitors, given the preference for visiting friends and relatives. This also carries with it a negative factor of visitors not using commercial accommdation; instead staying in the home of a friend or relative. Further, Alberta commercial demand is oriented to campgrounds during the summer months, rather than fixed roof accommodation. This in turn implies minimal spin-off benefits for the restaurant sector.

2.3. Northwest Territories Tourism Characteristics

2.3.1. Pleasure Travel

Since there is little specific data on visitors to the Fort Smith region, general characteristics from a number of previous Northwest Territories studies have been used.[5]

Visitors to the region include package tour groups, national park visitors, auto sightseers, those persons visiting friends and relatives, and the business traveller. Business travel accounts for the largest volume of travel to the study area, with trips being generated on a consistent basis throughout the year. Pleasure travel is primarily a summer activity. Very little travel activity of a non-business variety takes place during the winter months, with facilities being used mainly by government and business travellers. Cold weather, and reduced daylight hours are limiting travel factors for much of the winter season.

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5 See listing of Northwest Territories studies in Sources of Information, Appendix I, page 151.

The most common type of pleasure traveller is male, over thirty-five years of age, earning more than $20,000.00 per year, and is a professional or skilled worker. He is most likely to come to enjoy an outdoor vacation, or to visit friends and relatives.

In 1978, the majority of pleasure travellers originated from Canada, with most residing in Alberta. Canadian visitors were followed by those from the United States, and then other countries.

The packaged tour market in the area is primarily summer oriented, although local outfitters offer winter programs. The market tends to be small, highly specialized and is catered to by a limited number of tour wholesalers and retailer travel agents.

The outdoors oriented visitor tends to spend a high proportion of his total vacation expenses on transportation, either through scheduled airlines, or charter air companies used to fly into remote areas. In addition, hotel and dining facilities are used, often at both ends of a trip, and expenditures are made on local crafts and supplies. United States visitors originate mainly from the northern and north-central states, and are primarily fishing and outdoor oriented travellers.

2.3.2. Business Travel

Travel for business purposes increased dramatically during the early 1970's to the point where it comprised almost 95% of all travel in the study region.[6] This upsurge was in large part due to the proposed MacKenzie Valley Pipeline. However, following the Berger Report in 1975, which discounted the feasibility of a pipeline, a large decrease in business travel occurred, until 1978, when it began to pick up again, but has now dropped back to pre 1978 levels.[7] (See Table II for Aircraft Movements to Fort Chipewyan, and Table III for Aircraft Movements to Fort Smith, pages 118 and 119, respectively).

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6 Discussions held with Pacific Western Airlines Representatives, Edmonton, Alberta, Novmeber 1981.

7 Government of Canada, "Aircraft Movements - Fort Smith, Fort Chipewyan", Transport Canada, Edmonton, Alberta, 1981.

Business travellers presently tend to be primarily from Alberta, followed by those from the Northwest Territories. This market group is characterized by fairly high repeat visitation. In a recent air travel survey, only 60% of the business travellers had not visited the Northwest Territories within six weeks of the survey date and 5% between seven and twelve weeks.[8]

2.3.3. Air Travellers

There have been changes in the air travel system following a cutback in oil and gas exploration, pipeline construction and related activities. Pacific Western Airlines has cut back stops in Fort Smith and recently reported that for the first ten months of 1981 versus 1980, there has been a marginal increase of 200 passengers in and out of Fort Smith; 14,900 versus 14,700 respectively. Pacific Western Airlines also offered packaged tours a few years ago, but these were cancelled due to insufficient demand. It has been stated by Pacific Western Airlines officials, that 95% of air traffic to Fort Smith is government and government related, while the remaining 5% is personal, private business, etc.

According to Pacific Western Airlines, Fort Chipewyan has experienced a decrease of 1,000 in and out passengers between 1981 and 1980; 5,000 versus 6,000 respectively. Government and government related travel accounts for 70% of all passengers in and out of Fort Chipewyan and the remaining 30% covers personal and business travel, with a significant number of Fort Chipewyan residents travelling to and from Fort McMurray to work.

Generally, air travellers into the Northwest Territories for non-business reasons can be divided into three major groups; fishing lodge visitors; package tour participants; and individuals visiting friends and relatives, hiking, birdwatching, etc. Non-business air travellers into Fort Smith have similar characteristics, except there are substantially fewer fishing lodge visitors as there are few lodges in the area, and they have limited capacity. The majority of inbound and outbound passengers in 1978 were

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8 Outcrop Ltd., Inntrec Group Ltd., Qaivvik Ltd., Tourism Development and Marketing Strategy for the Northwest Territories, May 1980.

residents from Yellowknife, Inuvik, Hay River, Fort Smith, Frobisher Bay, and Fort Simpson, followed by lesser locations.

Summer business travellers to the Northwest Territories in 1978, tended to be professionals, businessmen, and skilled tradesmen.[9] Holiday travellers tended to be from a variety of occupations. The majority however, have occupations which earned higher than average incomes. They were from three occupational groups; professional, management and teachers. Visitors who combined business and pleasure trips had similar characteristics to the holiday market group.

2.3.4. Wood Buffalo National Park

Visitors and campground users to Wood Buffalo National Park primarily originate from Fort Smith and region, followed by Albertans and other Canadians. California is the biggest United States contributor and Germany is the largest European contributor of visitors, although the actual numbers of travellers from these non-Canadian sources were quite small.

Table IV

Campground Use

Wood Buffalo National Park

Year	Persons
1979	1,042
1980	1,082
1981	1,500*

* Estimated, and would have been higher if fire had not closed the use of facilities.

Source: Jim Green, Travel Promotion Officer, Fort Smith Region, Northwest Territories Department of Economic Development and Tourism, Tourist Visitation Summary, Fort Smith Region, 1980, Yellowknife, N.W.T., January 1982.

2.3.5. Fort Smith

Major reasons to visit the Northwest Territories were to experience

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9 Ibid

the outdoor resources of the north, i.e. camping, fishing, wilderness, parks, etc. The majority of the visitors came June, July and August and stayed in campgrounds.[10]

Table V

Origin of "Registered" Visitors in Order of Importance[11]

Origin	Visitors
Alberta	2,092
Northwest Territories	849
British Columbia	340
Ontario	321
Saskatchewan	271
California, U.S.A.	125
Germany	119
Minnesota, U.S.A.	107

2.4. Summary

The Alberta market is the closest, most affluent and travel oriented market to the study area. Albertans are predominantly outdoors oriented, which matches the characteristics of opportunities for this region. However, they also prefer to travel by road, and often stay with friends or relatives, or use campgrounds for overnight accommodation.

Increased promotion to Alberta resident is required if existing travel patterns are to be altered to even a minor degree. Overcrowding in the mountain National Parks may assist promotional efforts for summer travel, and wilderness experience.

Perceptions of the "frozen north", are strong limiting factors to increasing winter travel, even for Albertans.

Non-resident travel to the area has a possibility for increase, but is constrained by high transportation costs, limited facilities and

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10 and 11 Northwest Territories Department of Economic Development and Tourism, Tourist Visitation Summary, Fort Smith Region, 1980 , Yellowknife, N.W.T., January 1981.

distance from conventional stop-over points (i.e. Edmonton, Calgary, Vancouver).

Wilderness oriented tour programs should receive greater promotional support if they hope to compete with other destinations. This area offers the greatest tourism potential, although the market is small and highly specialized. Markets such as Germany, have shown a propensity for producing wilderness and adventure tour travellers, as well as sportsmen interested in hunting and fishing. Air transportation costs are a strong limiting factor to encouraging more travel to this area. Upgraded road access, particularly paving, may generate more Northwest Territories resident trips to the area.

Business travel will continue to dominate the travel market, and efforts should be made to capitalize on the leisure time needs of the business traveller, and to provide a vastly upgraded information delivery system on available leisure time activities and opportunities once the businessman has arrived in the area.

3. Travel Impacting Characteristics of a Slave River Hydro Project

3.1. Introduction

This section is not intended to be a complete description of the proposed project, only the travel impacting characteristics. Travel impacting characteristics are those factors which have a positive or negative influence on the tourism or the hospitality industry of the area where the proposed project is to be located. More specifically, they are the material and service purchases, employment, work schedules, and income distribution patterns created by the specific project which are likely to affect personal visits, recreation and business travel. The number, skills, salaries, and origin of all personnel required to construct and operate the project, has an influence on the local economy. Each and every project requires these inputs in various combinations. The combination or proportion acquired from local and non-local sources has a major influence on the local economy. Other travel impacting characteristics are the scale and timing of the project. This section will describe specific characteristics of the proposed Slave River hydro-electric dam during the pre-construction, construction, and operation phases of the project.

If the proposed project proceeds beyond the current feasibility study stage, the timing will likely be as follows:

1982 - 1985	pre-construction (detailed design, site investigations, regulatory hearings, logistics planning, etc.).
1985 - 1994	construction
1995	operation

These phases are not as distinct as the above schedule implies. Power generation would start in the second half of year seven, but construction would not terminate until the first half of year nine. Delay or extension of the pre-construction phase beyond that described would change all subsequent dates. Regardless of the start date, the project would require nine years to construct with employees being on site for the last eight years.

The project discussed in this report is for a dam located at Alternative Site 4, as presented in the Interim Report published by R. L. Walker & Partners Ltd., plus a 500 K.V. transmission line from the dam site to Fort McMurray with a sub-station located at Fort Chipewyan and another one close to the dam. This does not represent the complete system since there would also be a sub-station at Fort McMurray and a transmission line extending from Fort McMurray to Fort Saskatchewan, where it would interconnect with the Alberta Power grid. These components will not be discussed here as they are outside the study area, and the terms of reference for this analysis.

3.2. Pre-Construction

It is estimated that approximately $700,000 has been spent in the study area during 1980 and 1981 by consultants conducting the feasibility study. Approximately 20% of this amount was spent in tourism related sectors of the study area economy. This spending was in the food, accommodation, and retail sectors. In addition to the above, consultants in the Social and Community Studies section, and personnel from the managing consultants (R. L. Walker & Partners Ltd.) have travelled into and made expenditures in the area, primarily in the food and accommodation categories.

Travel by Alberta Government employees has also resulted in various expenditures. An office and staff have been maintained in Fort Smith during the feasibility study and numerous part-time personnel have been employed from throughout the study area. No separate figures are available for this travel expenditure, but it appears to be substantial.

If the proposed project proceeds further, a detailed design phase will be required before construction starts. It is estimated that $33 million would be required to design the dam and power line in sufficient detail for construction contract tendering and to carry out the required approval procedures. This would result in further local expenditures which could amount to 50% of the above amount. If such expenditures are made in the tourism sector of the local economy, in rough proportion to feasibility

study expenditures, expected sales of approximately $3 million would be generated during the detailed design phase.

This could be a conservative estimate as there will be a need for more detailed on-site investigations, which would likely mean additional business travel and thus greater expenditures on food and accommodation.

3.3. Construction

3.3.1. Hydroelectric Dam

The Alternative 4 dam site is approximately one kilometer south of the Northwest Territories/Alberta boundary and five kilometers southeast of the Town of Fort Smith, Northwest Territories. A photocopy of the site plan is included from the R. L. Walker & Partners Ltd. Interim Report, as Reference Map #9. The site is at a narrowing of the Slave River, about half way between Mountain Rapids and Rapids of the Drowned. One advantage of this location is that the river banks are more stable than at any of the other sites considered, offering more favourable topography for construction of dam abutments.

The powerhouse and spillway would be on the east side of the river. The main dam would extend out from the west side of the river to an interface structure beside the spillway. Appendix F, page 148, is a reproduction of figure 30 from the R. L. Walker report, which shows the various components of the project and their location in relation to each other.[12]

Alternative 4 is the least costly project of all the alternatives considered, although it would not necessarily generate the most electicity. It is also the most northerly site in Alberta where the project could be constructed. Construction would start on the east side of the river, which is presently inaccessible. Until such time as a roadway is completed across the dam, access to the east side would be by ferry across the river at Fort Smith. All personnel, material, and equipment would be transported to the construction site in this manner. Manpower, materials, and construction equipment are the major categories of inputs required

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12 R. L. Walker & Partners Ltd., Slave River Hydroelectric Project Feasibility Study, Interim Report, Edmonton, Alberta, 1981.

to construct the proposed Slave River hydroelectric dam at the Alternative 4 site. Manpower characteristics and the indirect effects of moving the materials and construction equipment through the study area will be the major impacting characteristics on the hospitality industry. The project would cost approximately $1 billion (in 1981 dollars) and would take nine years to construct.[13] Major activities which would be carried out during construction would be civil works, equipment maintenance, electrical and mechanical installation, reservoir clearing, and contractor's supervision.

3.3.1.1. Manpower Requirements

The number of construction workers on site at one time will be highly variable depending on the stage of construction, the activities underway, and the season. Employment should peak at approximately 2,450 persons in the second half of construction year six. The average and peak employment for each half year during construction of the dam is given in the table on page 68.

During the early construction years, most of the manpower on site would be employed constructing the civil works and doing reservoir clearing. Other personnel would provide support functions such as equipment maintenance, supervision, and operation of camp facilities. In the first half of year six, personnel would be on site installing mechanical and electrical equipment in the project. Appendix G provides an estimate of the average employment in each of the main dam construction activity areas by half year. It shows timing, duration, and intensity of work in each activity area in terms of manpower. (See page 149 for Appendix).

The hydro project would foster a considerable amount of travel to and from the area by workers during the construction period, including travel to and from the site according to activity cycles and seasonal variations. In the case of civil works personnel, this will amount to about 7,000 round trips over the eight year construction period, not including time away from the site for breaks or holidays. It has been estimated 50,000 round trips would be required to move construction personnel into and

13 Shawinigan-Stanley Engineering, Construction Costs, Labour and Material Requirements, Edmonton, Alberta, 1981.

out of the area, plus work rotations.[14] There would also be very significant indirect personnel movements associated with the project. It is estimated that over 11,000 truck trips would be necessary to move all the materials and equipment to the site during the eight year construction period. An average of 120 trucks a month would require accommodation and meals not provided directly by the project in the construction camp. An estimate of the semi-annual business travel associated with the project has been prepared on the basis of project activity.

Table VI

Average and Peak Construction Employment by Half Year

Slave River Hydroelectric Dam[15]

Year	Half Year	Average Employment	Peak Employment
1	1st	0	0
	2nd	0	0
2	1st	102	124
	2nd	243	283
3	1st	364	552
	2nd	384	541
4	1st	527	1,243
	2nd	1,592	1,412
5	1st	1,163	2,140
	2nd	1,438	2,180
6	1st	1,046	2,093
	2nd	1,872	2,449
7	1st	703	1,114
	2nd	736	914
8	1st	466	527
	2nd	279	268
9	1st	93	118
	2nd	0	0

The project may result in some increase in pleasure travel to view con-construction, or for friends and relatives to visit with construction workers. This type of travel into the study area is expected to be minimal during construction. Details on estimated construction phase business travel can be found in Appendix H, page 150.

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14 Grant Edmonds, Shawinigan-Stanley Engineering, Edmonton, Alberta, February 1982.

15 Shawinigan-Stanley Engineering, Construction Costs, Labour and Material Requirements, Edmonton, Alberta, 1981.

In discussions held with officials of British Columbia Hydro and Saskatchewan Power, and from the information received, there is evidence to support the view that a hydro project alone, does not attract any significant number of visitations. Visitation volumes will vary depending on the status of the dam project (i.e. pre-construction, construction, and operation); however local factors like facilities, attractions, services, accessibility, etc., will be the main factor in attracting visitors to the area. This fact is further substantiated in reviewing the statistical information obtained on the Revelstoke Dam and Bennett Dam in British Columbia and the Squaw Rapids Dam and Gardiner Dam in Saskatchewan.

3.3.1.2. Dam Site Comparisons

A) Revelstoke Dam

The $1.7 billion hydro dam at Revelstoke, British Columbia, is approximately 6.5 kilometers off the Trans-Canada Highway. There are two observation points and visitors stay approximately one hour. In 1981, approximately 30,000 people visited the construction site and British Columbia Hydro expects 45,000 to 50,000 visitors in 1982. Visitor interest is high during construction because of the magnitude of the construction project, for example, visitors like to see the huge construction machines. It is expected that visitation will drop off approximately 25% within the first few years after construction, and stablize after a few more years of smaller declines.

British Columbia Hydro plans to locate an elaborate Historical, Economic and Environmental Interpretation Centre on the fourth floor of the generating station. The tour would last approximately two to two and one half hours.

B) Bennett Dam

The W. A. C. Bennett Dam is approximately 100 kilometers west of Fort St. John and the Alaska Highway. In 1981 the dam attracted 27,101 visitors, of which approximately 60% or 5,606 persons visited during July and August.

It was pointed out by British Columbia Hydro, that there was only limited interpretation at the hydro project in the early years, but as positive feedback increased, so did the interpretive centre.

C) Squaw Rapids Dam

The Squaw Rapids Dam is located approximately seventy-five kilometers northeast of Nipawin, Saskatchewan, on a paved road. This dam is also adjacent to a designated tourist route known as the Northern Woods and Water Route. The location of this dam is easily accessible and in close proximity to large population centres. In 1981, visitations to this dam, from May to September inclusive, accounted for 20,208 visitors, of which 75% of the visits were made in June, July and August.

The dam site has a service centre, camping facilities and a recreation area. The main reason cited for visiting the dam site was to fish along the spillway, especially when the fish come to spawn in the spring.

D) Gardiner Dam

Gardiner Dam is located on Lake Diefenbaker, Saskatchewan, and is between the Trans-Canada Highway and the Yellowhead Highway, with paved roads from both these highways to the dam site. In addition, the Gardiner Dam is approximately seventy-five kilometers west of the divided highway connecting Regina to Saskatoon.

In 1981, from May to September, this dam attracted 21,478 visitors, of which 75% of the visits were made in July and August. There are two Provincial Parks on Lake Diefenbaker, camping facilities, second homes (cottages), some fishing, boating, store, swimming and winter sports. This is a primary recreation use body in southwest Saskatchewan.

E) Proposed Slave River Dam

As stated earlier, visitations to the above mentioned dams were not as a result of the dams themselves; but rather dictated by the facilities and attractions surrounding the dam. When comparing these other dams to what may happen to the possible dam on the Slave River, it is quite

reasonable to assume the hydro project will not attract a large number of non-residents who are not directly or indirectly associated with the project, either during construction or the operational stage. There are a number of deficiencies within Fort Smith and area that will restrict visitations to the dam. Limiting factors include:

1. The distance from major population areas.
2. The lack of a large volume of visitors to Fort Smith presently.
3. The lack of any firm plans or commitments to develop tourist facilities or attractions of a magnitude that would attract additional visitors.
4. The quality of sport fishing in the Fort Smith area is only fair, yet sport fishing is a major attraction for visitors to the Northwest Territories.
5. Wood Buffalo National Park has not yet been developed for the purpose of attracting visitors to the park or the general area.
6. Fort Smith is perceived as an "end of the road" community. This is not a desirable travel characteristic because of the monotony of backtracking on the return trip. In addition, the road from the Alberta border to Fort Smith is an all-weather highway, which is subject to difficult travel during adverse weather conditions. Scenery along the route is somewhat monotonous, with little topography change or unique geographic or geological features.

The work schedules established for the Slave River hydroelectric project would have an important influence on tourism and hospitality industry impacts. The normal practice on heavy construction projects is to work seven days per week. In this case, it may occassionally be necessary to work twenty-four hour days, using two or three shifts for activities such as large concrete pours. Workers would normally work a six day week and would probably stay on the site for six weeks before returning home for a break.

The specific work conditions and schedules which would actually be utilized depend on the contractor, labour regulations and union contractors involved. The specific work schedules cannot be determined at the feasibility study stage.

Obviously, the influx of people on the scale and timing indicated above requires a supply of housing beyond the reasonable capability of the Fort Smith area. The usual practice in such situations is to include a construction camp as part of the project. In their cost estimates for this feasibility study, Shawinigan-Stanley Engineering, have included a 2,000-man camp. Ownership and operational responsibilities have not been developed at this stage, however general layout and possible locations have been determined.

The preferred location for the camp is on the east side of the Slave River immediately adjacent to the construction site. This is the least costly location, as it minimizes travel time, which is a portion of paid working time. It is estimated that one hour travel time per day would increase the proposed project's labour cost by 10%.[16] An alternative location for the camp is on the west side of the river but adjacent to the west side of the dam. This would increase travel time and require utilization of a ferry to move personnel to and from construction activities on the east side of the river. Congestion would be particularly acute during the early years of construction when virtually all activities would be on the east side of the river. Either alternative location would place the camp in Alberta.

A separate operator's village or married family quarters is not being considered. Rather, the necessary housing would be provided in the Town of Fort Smith. This accommodation would initially be for senior engineers and construction staff, but could be used during the operational phase by the permanent staff.

The temporary camp would contain virtually all the facilities and services required for its design capacity of 2,000 persons. It's specific characteristics would influence the Fort Smith hospitality industry either positively or negatively during the construction period, depending on the actual camp characteristics.

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16 M. King, Shawinigan Stanley Engineering, Edmonton, Alberta, December, 1981.

The camp, as currently envisaged, would contain the following features:[17]

- Housing
  - 168 single storey units, each containing 12 single bedrooms, toilets, washrooms, showers, and laundry facilities.
  - ten similar single bedroom units for accommodation of a maximum of sixty visitors at one time.
- Administration building containing offices and an internal and external communications centre.
- Testing and construction control laboratories.
- Camp maintenance centre.
- Water supply system and water treatment facilities.
- Sewer system (final treatment and outlet would be downstream of Fort Smith).
- Solid waste incineration and disposal (done by local contractors).
- Food facilities
  - two kitchen mess hall buildings, Each capable of catering to 500 persons at one sitting.
  - snack bar with a capacity of 100 persons.
  - tavern with accommodation for 400 persons.
  - quiet bar with capacity for 100 persons.
- Movie theatre
- Sports arena and recreation centre for recreation and sports such as hockey, basketball, squash and bingo.
- Medical and health centre would be fully equipped and staffed as a first aid centre. It would have a ten bed infirmary with isolation units and its own laundry and kitchen facilities. There would also be a fully equipped dental room. Staffing would include a resident doctor and three registered nurses as well as the first aid staff. An alternative to this feature would be utilization of medical facilities in Fort Smith. There would be a minimum of two ambulances as well as several first aid posts located on the construction site.
- Visitor information centre with a permanent information person to guide tours and to prepare explanatory handouts.
- Security would be provided by a staff plus complete fencing around

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17 Shawinigan-Stanley Engineering, Edmonton, Alberta

the camp with controlled access at all gates.

- Post Office.
- Fire protection equipment and staff.
- Parking area on the west side (Fort Smith) of the river for those who bring private vehicles.
- Shopping facilities would be limited to a dispensary which would sell reading material, tobacco products, confectionery items, and toiletries. There would also be a clothing store to sell work clothes to workers.
- Banking and drycleaning facilities.
- Garage to service administration, engineering, and staff vehicles.

3.3.1.3. General

The concept of the project is for a "run-of-the-river" dam constructed for an operating water level of 206 meters. There would be no reservoir extending to Lake Athabasca. However, the project would act to maintain higher levels in periods of lower flows. This means there would be no large reservoir behind the dam, although, there would be flooded areas of land during certain times of the year. These areas would be cleared of trees and bush starting in the last half of year two and concluding in the first half of year seven. The river would therefore retain much of it's current wilderness character, but would not provide a greatly enhanced attraction for recreational boating.

3.3.2. Power Transmission Line

A hydroelectric dam does not exist in isolation but requires a transmission line to take electricity to market. Part of the feasibility study of the proposed Slave River hydroelectric dam was to determine the technical feasibility and cost of connecting the dam to the Alberta power grid. This connection would be made by twin 500 K.V. lines from the dam site to the interconnect point at Fort Saskatchewan.

The line would be constructed from Fort McMurray to the dam in two sections; one from Fort McMurray to Embarras; and the other from Embarras to Fort Smith. Construction would take place over a two to three year

time span. (See Map #10, page 121).

Fort Chipewyan and Fort Smith would receive minimal short term benefits from the influx of transmission line construction workers in the area. All construction workers would live in camps, which would be set-up along the right-of-way; usually in conjunction with material depots. Workers would likely move directly to most of the camps from Fort McMurray except for those camps close to Fort Chipewyan or in the vicinity of Fort Smith. There could be some economic spin-offs when the workers move through the communities. These could take form of taxi or bus service and limited retail spending on gifts, souvenirs, food, etc. There would unlikely be any purchases of food or supplies in Fort Chipewyan and only limited shipment of perishable items through the community. There could be some shipment of perishable items through Fort Smith when construction camps are in the vicinity. Some food could be purchased depending on purchasing policies locally.

It is anticipated that survey and construction crews will be working in the area for almost two years. Crews will rotate through either Fort Chipewyan or Fort Smith; accounting for a combined total of approximately 8,500 business round trips into the area over this period.

Most of the construction materials required to building the transmission line are not available within the study area and must be brought in from outside. Most supplies necessary for construction crews would likely be brought in from outside the study area, unless local businesses could offer them at competitive rates. Construction of the transmission line has very few characteristics which could positively impact other sectors of the study area's hospitality industry.

3.3.1.4. Sub-Stations

The project also calls for three sub-stations to be built in the study area over a period of two years. Manpower requirements are relatively small involving a maximum of 155 persons. Virtually all materials used

in construction would be brought in from outside. The economic impact of sub-station construction is likely to be minor and not worthy of detailed analysis, as on-site expenditures will be minimal.

3.3.1.5. Operation

The operational period of the power transmission line and sub-stations could be in excess of fifty years. The economic characteristics of the operational stage will continue to influence the area as long as the facility continues to generate and transmit power.

The dam and powerhouse require an operational staff of approximately sixty-one persons, as follows:

Supervision and administration	10
Engineering	3
Operating and control	10
Maintenance	25
Training	8
General support staff	5
Total	61

Source: Shawinigan-Stanley Engineering, Edmonton, Alberta.

Repair and maintenance crews for the transmission line and sub-stations will be required over the life of the project; but not in numbers that will have a significant impact on local economies.

Construction benefits are seen to be short-run in nature, although substantial. Operation and maintenance benefits to the study area of a hydroelectric project are long term, but relatively minor in comparison with construction activities. The potential for a boom-bust situation of such a large scale industrial project is a major consideration in managing the impacts of the Slave River project on development of a local tourism industry.

4. Probability Impacts

The three scenario outlines presented in the previous discussion, all contain probability elements, i.e. those things most likely to happen under a given set of factors, circumstances or occurrences.

This section focuses upon the likely impact of each scenario on the study area, as it relates to the tourism sector of the local and regional economy.

4.1. Scenario 1: A Hydroelectric Project with Road Access to Southern Markets Prior to Construction

This scenario is based on the assumption that an all-weather road built to highway standards will be constructed to connect Fort Smith and Fort Chipewyan with central Alberta, prior to construction beginning on the hydroelectric project. Secondly, it is assumed this road would be located entirely within Alberta, and would not involve upgrading or re-routing of Highway #5 connecting Fort Smith to Hay River.

Preliminary feasibility analysis has been undertaken by both the Alberta government and Parks Canada, regarding road access to the study area. Alberta Transportation completed a review in 1975, of routes from Fort McMurray to Fort Chipewyan, crossing the Delta or Lake Athabasca, and on to Fort Smith.[18] Parks Canada completed a study in 1981, which looked at routes from Fort Vermilion to Fort Smith, through Wood Buffalo National Park.[19]

Each agency of government has specific constraints to deal with regarding road construction. Parks Canada would have to contend with the environmental disturbance of road construction in a national park, as well as the possibility that the new road would be heavily used by construction traffic, should the Slave River hydro project proceed. Alberta Transportation is faced with enormous capital costs for construction, as a road would have to cross the Athabasca Delta or Lake Athabasca

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18 Fenco Consultants Ltd., Surface Transportation Corridor Study, Fort MacKay to Fort Chipewyan, Alberta Transportation, Edmonton, Alberta, November 1976.

19 Conversation with James Johnston, Head Park Planner, Wood Buffalo National Park, Fort Smith, N.W.T.

via ferry system, as well as cross the Canadian Shield from Fort Chipewyan to Fort Smith, on the east side of the Slave River. A further consideration on a ferry system across Lake Athabasca, is the operable period involved with fall freeze-up and spring break-up. The large expanse of shallow water at the western end of the lake, as a result of siltation from the Athabasca River, would also require constant dredging maintenance.

In the consultant's opinion, the most feasible route from an economic and engineering standpoint is a route through Wood Buffalo National Park from Fort Vermilion. A route connecting Fort Chipewyan with Fort McMurray is viewed as a long term possibility only, and will not be the subject of impact analysis at this point. However, it is recommended that a detailed assessment of this possibility be undertaken as a follow-up to this particular report, at such time as is warranted.

Should the Alsands project and the Slave River hydro project both proceed to construction, there may be sufficient cost/benefit justification to warrant the development of a direct north-south road connection between Fort Smith and the Alsands area around McClelland Lake, although it appears that overall costs would be astronomical.

4.1.1. Business Travel

The travelling time and distance for the movement of goods, services, and people via a new road, would be considerably shortened over the present road from Hay River, using Edmonton as the staging/supply centre. It would likely result in reduced cost of goods and services to the area, as air transportation would have effective competition from truck transport, which is a lower cost mode.

There may be a modest increase in rubber-tire business travel to the area, but air would continue to be the dominate transportation means for in-coming and out-going dam-site workers. A few individuals located on-site for extended periods of time, may bring in their own vehicles for personal use, such as a truck-camper, trailer, or even motorhome.

However, a comparative analysis of other hydroelectric projects indicates that a majority of workers will leave the construction site during time-off, to pursue extended stay vacations in traditional "time-off" spots; or simply return to their place of residence.

On-site workers will likely only have one day per week available for leisure pursuits. Therefore, it is likely that activities such as sport fishing, hunting, and others which can be undertaken fairly close to the camp site, will be favoured pastimes. A sample range of day trip opportunities includes fly-in fishing, boat and canoe trips, park excursions, cross-country skiing, day hikes, dogsled trips and photography excursions.

It is anticipated that the majority of camp personnel would remain in the camp or travel into Fort Smith only on single days off. The lack of activities and attractions in the area will contribute to workers leaving the area completely during shift breaks and rotations.

There is somewhat greater potential benefit from the business traveller who is not stationed on site for extended periods of time. This includes professionals travelling in and out of the area, short term management staff, consultants, etc. By offering alternate activities, this type of traveller may be encouraged to extend the short term business trip by a day or a few days.

The uniqueness of the area may encourage expenditures on such items as local crafts, sporting goods, and the services of guides and outfitters, but likely only during the summer and fall seasons.

To capture even a nominal share of this market potential, the business traveller must be made aware of the opportunity of co-operative day trip or overnight packages in conjunction with airlines and local operators. The local operators would need extensive additional marketing support to take maximum advantage of this opportunity. The "what to do while you're in ..." brochure, material prominently displayed in restaurants,

hotel rooms, and on the construction site would assist the development of this market. It is not reasonable to assume the short term business traveller will burden himself by carrying extensive recreation equipment with him, if only a one or two day leisure trip extension is contemplated. Therefore, there may be some possibility for local business to provide equipment rentals to capitalize on this market.

Expanded restaurant and accommodation facilities may be warranted to handle in and out business travellers. A small family dining facility requiring limited staff could offer a reasonable and desirable alternative to "camp cooking" which has gained a considerable degree of notariety on many construction projects. It is quite likely that any premises serving liquor will benefit from the construction phase.

In summary, the benefits to the tourism sector from business travel are likely to be marginal at the out set. Only with extensive promotion directed specifically at the "in - out" traveller, combined with activities suited to one or two days travel extension at the most, will any real economic spin-offs be realized. Secondly, Fort Smith will receive the bulk of any benefits accruing to the area; even with road access to this community. Only very sporadic travel to this community can be expected from the business community, due mainly to time limitations.

4.1.2. Vacation Travel

The leisure and pleasure travel market incorporates what is commonly referred to as "the tourist". We have previously stated that conventional tourists, in any large numbers, will not be a factor in this study region, primarily due to the constraints imposed by climate, distance, remoteness, and lack of suitable attractions, events, and facilities.

Improved road access would provide assistance to the vacation travel market, but not in a substantial way. Rubber-tire traffic would have an easier time and shorter distance to travel to the region, particularly from the large Alberta cities, and from the historic travel routes in the provinces of Alberta and British Columbia. However, the attractiveness of this access is predicated on whether road surfaces would be gravel

or paved. Long distance travel on dusty gravel roads is a sure-fire means of discouraging all but the hardiest of pleasure-seekers.

Road access from the south or from the west would create a new circle route for travellers, instead of the present "dead-end" travel via Highway #5 to Fort Smith. Competition from the circle route offered via the Liard Highway would be significant, as the travel resource base is superior to that offered within the study area. In addition, the presence of a connector link to the Alaska Highway would be a strong enough drawing card for potential visitors to orient their northern "adventure" tour to the west.

Road access will primarily appeal to the adventuresome road traveller, not the family traveller pulling a trailer. A number of tourism services and attractions would have to be developed along the road if the conventional tourist is to be lured away from more highly developed areas where road travel can be undertaken with some assurance of safety and services. The Alaska Highway has long suffered from a lack of highway services,even with its spectacular array of scenic resources, and this has been a deterrent to the mass market road traveller for many years. One must view the area in a realistic manner when assessing the capability to attract the visitor because of new road construction, and to judge accurately what the competition is offering or providing by ways of roads, services, facilities, attractions, and events.

It is reasonable to assume that expanded services for the visitor would likely be developed in Wood Buffalo National Park, including points of interest, picnic spots, campgrounds, and perhaps secondary scenic roads where feasible. However, these developments are likely to take several years to effectively be put in place after a road link is completed.

It is with Wood Buffalo National Park that the main hope for expanding the conventional auto and recreation vehicle travel market lies. However, as this massive resource is under federal jurisdiction and funding, it is beyond the scope of this report to recommend visitor services planning for Parks Canada. It is however, within the realm of planning

to initiate discussions with Parks Canada to assist their planning efforts and meet the objectives of stimulating and servicing the visitor traffic to Wood Buffalo National Park, and on to Fort Smith and Fort Chipewyan.

4.1.3. Domestic Travel - (Canada - primarily Prairie Provinces and British Columbia)

The only means of attracting the domestic market is to package a group of attractions, events, and vacation opportunities into a wilderness wildlands, or adventure tour experience which collectively can offer enough diversity and drawing power to compete with other similar products in North America.

Road access would assist the establishment and development of this market by lowering transportation costs, and allowing the use of buses or automobiles to access the area rather than having to use air transportation. Secondly, it would allow individuals to bring a greater amount of personal supplies such as boats, motors, tents, fishing equipment, etc., which are either too inconvenient or too costly to bring by air. Thirdly, it would allow visitors to travel at their own pace and schedule, rather than having to rely on airline schedules and reservations.

Road travellers to this area will likely be summer season oriented, and will be limited users of commercial accommodation and restaurants, although some expansion of food service facilities may eventually be justified. Camping facilities are highly seasonal in operation, and it is unlikely that a private sector operation could survive. Therefore, government will have to provide these facilities and be responsible for their maintenance.

It is quite realistic to assume that the domestic travel market will be mostly self-contained, requiring little in the way of goods or services other than gasoline, camping facilities, groceries, and occasional restaurant and motel/hotel facilities. Generally, it will not generate sufficient volumes of visitors to warrant major capital expenditures by the private sector. Limited opportunity may be created in the service sector, but the overall impact on the tourism sector by nature of a domestic traveller

using a new road access route would be marginal at best, and likely negligible in the short run; that is one to five years after completion of construction.

4.1.4. Non-Resident Market - (United States, Europe, Japan, United Kingdom)

The same parameters of a collective group of attractions and activities applies to non-resident market as it does to the domestic market. Upgraded road access has a lesser effect on the non-resident market, although some degree of opportunity is available for the local tourism industry to capitalize on.

The cost of transportation is of lesser importance to this market, as long distance travel by air for a major portion of the journey from place of residence, is usually involved. Road transportation would likely occur via tour bus, or via rented recreation vehicle. Tour buses are increasing in popularity as an economical and efficient means of group travel. It is unlikely however, that the tour bus market to the area could be effectively developed unless high quality paved road access was provided, with scenic, facility, or attraction stops developed on route.

The potential for bringing in wilderness or scientific/educational study travellers would be increased by having road access, particularly if student groups are involved, using bus transportation rather than costly air service. There may be some development of a scheduled bus service to the study area from the south given a new road access.

The United States resident is a frequent traveller on the Alaska Highway, but the destination of Alaska, the unique attractions, and superior scenery on route through a principle mountain environment, are good reason for the lure of this highway. It is unreasonable to expect the United States road traveller to be attracted to the Wood Buffalo area in any great numbers, although active promotion of the region to the United States market may have some beneficial effect.

The key non-resident markets which show some potential for the study region are West Germany, and to a lesser extent, Japan. West Germans have been a key source of revenue for a number of adventure tour operators, guides and outfitters in North America and throughout the world. They are enthusiastic and interested in wilderness travel, and are primarily outdoors oriented. Properly packaged safari-type adventure tours could be successful to this market, but would require very strong promotional support by government, and capable, knowledgeable tourism operators.

Proper training for the people working in the hospitality sector would be essential if this market is to be captured. Government and private sector programs are offered to assist staff in understanding the industry, and meeting its criteria for providing friendly service. Local residents in Fort Chipewyan and Fort Smith would also benefit from tourism awareness programs, to help overcome animosities which may develop from an influx of newcomers with what may appear to the populace as unreasonable demands for service. The West German market is demanding, and a full understanding of it's characteristics is needed by the local tourism industry before attempting to attract visitors from West Germany.

The Japanese market is attractive to virtually every sector of the tourism industry. Visitors from Japan tend to be relatively high spenders, less demanding than the West German market, and travel in groups. However, they are less likely to participate in wilderness type tours or safari/ adventure tours, and are more oriented to utilization of high quality visitor facilities. There may be some potential to attract the Japanese visitor for a one or two day stay as part of an overall northern Canada tour package, oriented to photographic excursions.

There may also be limited potential for attracting other European and United Kingdom visitors, although the amount of marketing dollars and thrust involved would not likely be justified in terms of the number of visitors who would actually travel to the study area.

Overall it appears that the vacation/pleasure travel market is limited

even with new road access. The potential volume of visitors is small, and would be generated from sources outside of Western Canada. Market appeal would be restricted at the start to a relatively short season (June to September). Major capital investment is not justified on the basis of tourism market potential, and likely would have little chance of economic success. Local training programs are an absolute requirement.

The development of safari-type adventure tours, wilderness tours, and the development of knowledgeable guides and outfitters offers the greatest hope for the tourism sector. The concepts of backcountry lodges, shelters, marine campgrounds, and temporary camp-style accommodation should be examined in greater depth as a means of attracting and servicing the non-resident market. Significant government marketing assistance is essential if tourism is to be developed. The local industry will have neither the money nor the expertise to venture into product marketing outside of Western Canada alone or without financial assistance. The tourism economy will be very slow growing, and will require a co-operative effort by all persons involved, especially the local communities and residents, if it is to have any chance of success. The following opportunities may be seen favourably in conjunction with the non-resident market.

1. Safari-type adventure tours.
2. Hunting and sport fishing.
3. Photography
4. Wildlife viewing.
5. Boat tours including marsh boat, whitewater, canoe, and lake/river tours.
6. Backcountry lodge/shelter system including temporary seasonal accommodation.
7. Guiding and outfitting.

4.2. Scenario 2: A Hydroelectric Project Without Road Access to Southern Markets

This scenario is based on the utilization of Highway #5 from Fort Smith to Hay River and the MacKenzie Highway as the only road access to the area.

Air travel would remain the prime means of transportation for business and vacation travel. The cost of goods and services in the area would not decrease due to reduced transport distances as with a new road. Most heavy equipment would be moved into the area via Hay River on truck, or down the Athabasca River by barge to Fort Chipewyan and Fort Smith. From there, it could be moved to Fort Smith via winter road through Wood Buffalo National Park, with Parks Canada approval.

The general impact on the tourism economy of building the dam with only the existing roads in place, would be less than with a new road connecting to southern markets.

The only exception to this would be in the case of Hay River. The community would experience greater tourism and economic impacts without direct road access between the Fort Smith/Fort Chipewyan and southern markets. There would be a significant increase in business travel through Hay River as Highway #5 would be the only means of surface access to the project site, other than any water transportation on the Slave River. Workers travelling to and from Fort Smith would have to pass through Hay River if they do not use air transportation. Most of the material content for the hydroelectric dam would also pass through the community. Trucks would operate through Hay River between the south and Fort Smith. It would also be a trans-shipment point for materials arriving by rail, which would then be taken to Fort Smith by truck. Hay River is a natural stopping point for through trucks and a base for trucks operating between Hay River and Fort Smith. Truck drivers and trans-shipping labour would have an impact on the tourism sector through increased use of accommodation, food services, retail and service sector services (for a list of these facilities, refer to Appendix B, page 132).The impacts of this business travel would fluctuate depending on material shipments to the project.

4.2.1. Business Travel

The remoteness and isolation image of the Slave River dam project would be negatively reinforced if the only road access is via Highway #5, especially during the long winter season. Fort Smith will receive almost

the entire benefit from the dam-site construction, with Fort Chipewyan having to rely almost exclusively on the vacation traveller to support any form of tourism activity. Any potential benefits from increased rubber-tire traffic would be lost, particularly the tour bus market.

Wood Buffalo National Park would remain an inaccessible resource base, with little demand generated for increased recreational vehicle campgrounds, as little increase in worker vehicles could be expected except those whose residence is in the High Level to Yellowknife region.

Similar activities would exist as projected in Scenario 1, for on-site and in-out business travellers. More attention would be focused on air charters as the only real means of transportation around the area on day trips, although the high cost per mile is a prohibiting factor to regular patronage. Some degree of water based transportation may develop, including boat rentals, due to road constraints, and the high cost of air travel. A higher level of in-out trips could be expected if no other road access is developed.

4.2.2. Vacation Travel

Rubber-tire vacation travel will be limited to present levels of increase. There may be an increase of rubber-tire visitors to Fort Smith and Wood Buffalo from the Yellowknife/Hay River area, as they would be curious about dam-site construction. However, the southern markets would virtually be excluded from the tourism scenario. Wood Buffalo National Park vacation traffic would be composed of the present visitor mix, with additions from foreign markets on packaged tours as described in Scenario 1. The possibility of developing a circle tour route would be lost. The costs of goods and services to the visitor would remain high. Tourism businesses would have to orient themselves to the air traveller, which is a very unstable market due to increasing costs. There would be reduced capability to diversify cash flows from a greater tourism mix using road and air transportation.

The non-resident market does not need new road access to be attracted

to the area, although it would assist in over-all activity packaging for tour operators. The programs outlined in Scenario I are applicable to this scenario for non-resident visitors as well, with the exception that movement of tour groups would be restricted. The principle loss wouldoccur in the ability of the area to attract educational study groups, as these are often cost-conscious, and would be very constrained by having to pay high priced air fares to gain access to the region. The potential for additional study and interpretation of many of the resources in Wood Buffalo National Park would also not be realized.

Fort Chipewyan can benefit equally with Fort Smith under the scenario, as the tourism resources with the greatest potential for future development generally lie in the southern portion of the study area. The cultural and historical resources are undeveloped, but over the long term could be effectively integrated into a package of opportunities which ultimately could appeal to a broad-based market focusing on Fort Chipewyan as a destination and staging area.

4.3. Scenario 3: No Hydroelectric Project and No Road Access

Scenario 3 maintains the present levels of visitation and business travel, but does not preclude the opportunity to expand the tourism economy, although the time frame to establish tourism as a meaningful entity would be over a longer time-frame.

For any venture, there must be a starting point, and given the status quo situation of this scenario, those opportunities which can be accomplished with the least cost should be fully investigated. This would likely begin with tourism awareness and training programs, which is applicable to all three scenarios. Guide and outfitter training is essential for the local populace to benefit or participate in outdoor oriented tourism activities.

The adventure tour program needs more maturing before it can accommodate the European market successfully. It is possible however, to begin gaining market exposure through provincial and federal government tourism

marketing programs, including "familiarization tours" for influential travel agents, tour wholesalers, writers, and photographers, whose preferences lie in the adventure tour/wilderness experience market.

Some level of increased promotion could be done in the Alberta market, but it is not likely that any real change in the existing travel patterns of Albertans would result. Existing guides, outfitters and fishing lodge operators in Alberta have a difficult time as it is with attracting the resident, even with co-operative marketing programs with Travel Alberta.

The overall impact of Scenario 3 is that businss travel would continue to be in-out with no leisure travel attached to the business trip. This situation would change only if a co-operative effort was made by the resident, the business community, and relevant government agencies in offering leisure alternatives during a business trip. Vacation/pleasure travel would increase only over the very long term, and only with fairly extensive marketing and support from local residents. Steps can be taken towards developing an infant tourism industry, but this will require careful direction and guidance from knowledgeable tourism experts, and patience and perserverance from the local business community.

4.4. Conclusion

It is important to remember that visitors need a variety of opportunities to satisfy vacation requirements in a remote setting such as the Wood Buffalo region, where developed facilities, attractions, and events are few and far between. It would be foolish to suggest that visitors will come to the area because of the dam, or because of the new road. The dam will take no more than a few minutes to look at, or a few hours at most to be guided through if tours such as those offered at Boulder or Grand Coulee dams in the United States were instituted.

A lengthy, isolated road through wilderness country is not much of an inviting travel prospect to the conventional road tourist, unless a certain level of support facilities are developed and services are readily

available.

The probability impacts suggest that road access prior to dam-site construction would be required if a tourism industry is to have a reasonable chance of success. The impact of the vacation traveller will not be as significant as many local residents seem to think. Remoteness, distance from population centres and families, and the harsh winter environment would contribute to significant out-migration of workers and supervisory staff, whenever time permits.

The local populations in Fort Smith and Fort Chipewyan are not yet ready to handle the foreign visitor successfully. Extensive training and awareness programs are required before this market can be successfully tapped.

A package of attractions, events and activities is necessary to develop tourism in the region. No single resource stands out as having drawing power on it's own, however, combined together, the region can offer a credible adventure tour/wilderness experience and a number of opportunities for interpretation and scientific study.

Significant government assistance will be required in the areas of marketing, provision of outdoor recreation opportunities, and attraction development. Marketing to the foreign visitor can only be accomplished through provincial and federal government programs.

While the West German market offers potential for outdoor adventure tours, an in-depth analysis of target market requirements and characteristics, and how they can be met within this region, is necessary prior to undertaking any concerted effort to attract the visitor.

If a dam is not built, tourism will be a very slow growth industry. Costly local air travel will limit the market potential to occassional long distance travellers. The Alberta market would remain untapped, and there would be little incentive to commit funds to develop facilities

or attractions without a corresponding increase in market potential access.

The development of a dam could have beneficial spin-off tourism effects on Fort Smith and Fort Chipewyan. The degree of benefit would in large part be determined by the attitude of local residents towards welcoming and servicing the visitor. The large labour force on-site would have only marginal tourism impact, primarily in the food service and beverage sector, with some accrued benefit to local merchants. The present and project related business traveller, who is inclined to be a high income earning professional, offers the greatest dam-related tourism market, and attention should be focused on ways and means to inform, service, and capture a portion of this market for extended stay business/pleasure travel. Equally important is the positive "word of mouth" advertising that would take place if these business travellers experience a satisfying trip.

5. Scenario Analysis

5.1. Introduction

The factors and characteristics outlined in the analysis of the five sub-assessment areas; the impact of the hydroelctric dam, transmission line, sub-station construction and on-going operations; and the marketing characteristics of potential visitors to the area, are key elements in forecasting how the region's tourism industry can be stimulated and benefit over the short and long terms because of a Slave River hydro-electric project.

An over-riding consideration which has been only briefly discussed in the analysis, is the impact of transportation. An upgraded transportation network could significantly alter the present level of development in existing communities, with or without the project. Both the Alberta, Northwest Territories, and Federal governments are examining transportation needs and requirements in the area. The possibility exists for highways to be constructed from Fort McMurray to Fort Chipewyan, and from Fort Chipewyan to both Fort Smith, and to High Level. However, detailed feasibility analysis, engineering examinations, and complex government negotiations are required before any commitment is made to develop any route.

The completion of the Liard Highway in 1983, connecting Fort Nelson, British Columbia and the Alaska Highway with Fort Simpson, Northwest Territories and the MacKenzie Highway, will definitely impact the study area. A new circle tour route would be created, oriented to the west, and the Alaska Highway.[20] It would give greater competition to the study area in attracting potential tourists, as outstanding scenery is offered in the western region of the Northwest Territories.

Paving programs may provide marginal travel benefits by improving access for the conventional tourist, and permit a faster and more economical movement of goods in and out of the area. In addition, paving could stimulate the tour bus market, which would have spin-off effects for the accommodation and food services sectors. Upgraded road access may

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20 For illustration, see Map # 11 in Appendix, Page 122.

generate more Northwest Territories resident trips to the area, particularly from Yellowknife and Hay River.

It is impossible to prepare a list of tourism opportunities without a realistic evaluation of constraints facing the tourism industry. The constraint factors differ in every area of the world, ranging from cost, temperature, sunshine, beaches, to racial discontent, crime, government stability, etc. These factors must be accepted, as some will not change no matter what opportunities of facilities are developed. For example, you cannot change the weather, the seasons, the distance from markets, or the mosquito and black fly populations, all of which influence the market in northern Alberta and the Northwest Territories. The discussion of opportunities is categorized into four sections:

A. Outdoor Interpretation and Education
B. Outdoor Recreation Opportunities
C. Facility Development
D. Local Resident Participation

These four categories will be internally priorized into what can be implemented with the least cost implications and the shortest time frame, what will require capital inputs and more extensive market feasibility analysis, and what will require significant capital expenditure and detailed long term planning and analysis. Priority rankings of P1, P2, and P3 will be assigned to these respective categories.

Scenario 1: A hydroelectric project with road transportation linkage to southern markets prior to construction.
Scenario 2: A hydroelectric project with no road transportation linkage to southern markets.
Scenario 3: Maintain the status quo - no project

The key consideration factor to all scenarios is the impact of the business traveller, and the potential of this market for combined pleasure travel, and use of leisure time with the business trip. In order to service this market well, it is critical to expand the amount and type

of promotion and information services available to make the business traveller aware of the various opportunities, both before the business trip is initiated, and while the business visitor is in the area.

A basic set of assumptions is being introduced for the forecasts of tourism opportunities, over a five year horizon, extending to 1987. These assumptions are integral to the conclusions reached by the consultants on the future of the study region, and are itemized as follows:

Assumption #1 - Canada's overall economic situation will remain in a recessionary atmosphere for at least the next twelve months. The impact of poor economic performance in the small business sector, layoffs and unemployment in all business sectors, and continuing labour strife, will negatively affect the travel industry throughout the five year horizon. It is unlikely there will be a rapid recovery, given the current major factors influencing the economy.

Assumption #2 - High interest rates (14%+) will probably be a fact of the Canadian economy for the forseeable future, in conjunction with relatively high inflation (10%+), mainly due to the price increase effects of the National Energy Policy, and labour settlements which continue to be in excess of the annual inflation rate.

Assumption #3 - Energy costs will probably continue to increase, particularly in the transportation sector of the economy. Even with a stablization of energy prices, transportation costs will continue to rise due to inflation and increased labour costs.

Assumption #4 - The combined impact of the recession, high interest rates, inflation, and high energy costs will continue to have a strong negative impact on the travel industry.

This will reduce overall propensity to travel, especially to distant destinations. Even if an abrupt turn-around is accomplished, it will probably take a two to three year period of stable growth, before personal pleasure travel volume returns to pre-1980 levels.

Assumption #5 - The Liard Highway completion will probably have a greater negative impact on the study area than positive impact. A new circle tour route would be created, orienting travellers west of the MacKenzie Highway, rather than east into the study region. In addition, it would create a direct link between Yellowknife/Hay River, and Fort Nelson, British Columbia, a rapidly expanding oil and gas resource centre.

Because this study has been conducted as an overview and part of a feasibility study, a detailed analysis of opportunities has not been undertaken. Each opportunity presented would require a comprehensive feasibility analysis, which can only be accomplished with local resident input and support. The intent of the identification of opportunities is to generate an awareness of potentials only, under hypothetical or forecasted situations.

5.2. Outdoor Interpretation and Education

Perhaps the most immediate opportunity for tourism industry expansion and benefit to local residents lies with greater utilization of the physical and natural resources of the region. Due to the constraints imposed by climate, distance from markets, transportation inadequacies, and a lack of lodging facilities, a package of varied opportunities is required to create the necessary travel stimulus. No one factor or resource is of sufficient stature by itself to generate single purpose-pleasure travel from outside the study area, for more than a few days stay. However, the combined impact of pulling varied resources and features together, could generate extended-stay visitor traffic.

The type of visitor would be non-conventional, (i.e. a conventional

visitor is one who travels by car, and patronizes motels, hotels, and restaurants for food and accommodation), and outdoors/nature oriented in leisure time pursuits. In addition, the market for educational/ scientific tours could be expanded, although in pure content this sector would be classified as business travel.

Five features have been analyzed as displaying significant attributes to collectively generate benefits to a localized tourism industry under this category. They are:

- Peace-Athabasca River Delta
- Athabasca Sand Dunes*
- Slave River Rapids and Pelican colonies
- Athabasca Tar Sands* - Alsands Site
- Historic Site and Archaeology
- Wood Buffalo National Park

* Although the Tar Sands and Sand Dunes are outside the study region, the unique nature and significance of the resource is sufficient to warrant their inclusion as a focus to the study area.

TOURISM OPPORTUNITY

DESCRIPTION OF OPPORTUNITY	CONSTRAINTS	DEVELOPMENT REQUIREMENTS	MARKET APPEAL	ENA FEASIBILITY			PRIORITY		
				S1	S2	S3	P1	P2	P3
Scientific and educational study of the Delta hydrology, flora, fauna, and landforms. - Delta is of national and international significance. - Impact of Bennett Dam is significant.	- Lack of accommodation in Fort Chipewyan. - Lack of outpost accommodation. - Insufficient numbers of Parks Canada staff. - Poor Delta access. - Little incentive for mass travel and therefore no appeal to travel trade. - Lack of guide and outfitters on a consistent basis.	- Higher quality of visitor acommodation in Fort Chipewyan. - Seasonal temporary outpost accommodation (removable ATCO-type trailers). - Delta transportation required (boat, air). - Some relaxation in Parks Canada development policies.	Limited to a small, highly specialized market. Likely target markets in Alberta, British Columbia, Saskatchewan, at the University level.	X	X	X		X	
Safari-type adventure tours, focusing on the Delta and Wood Buffalo National Park. - encompasses a variety of activities, and is incorporated into recreation opportunities. - some possibility to include hunting safaris, particularly for ducks and geese.	- Lack of high quality visitor staging facility. - Shortness of season. - Very limited winter market and severe climate. - No outstanding resource as a drawing card. - Competition from similar adventure tours such as whitewater rafting, Kenya Safaris, Himalyas Treks, etc. - Inadequate transportation. - High air transportation costs. - Lack of trained manpower.	- Trained local resident hospitality sector. - Financial support to tour operators. - Quality outpost camps. - Reliable Delta transportation. - Co-operation of Parks Canada. - Incentive fares from airlines. - Government involvement in marketing and training.	Limited to adventure seekers and wilderness oriented market, but might be effectively sold in Alberta with strong promotional support. Foreign markets such as Germany could be tapped with strong promotional support from Travel Alberta and the Canadian Government Office of Tourism.	X	X	X	X		
Wildlife viewing, photography, and interpretation. - Migratory bird staging - Wood Buffalo National Park - rare and endangered species including whooping crane, and peregrine falcons.	- Trained local staff. - Inadequate accommodation. - High cost of air transportation from the market place. - Seasonality - Delta transportation.	- Requires a high quality lodge-style accommodation facility. - Government marketing support. - Resident participation. - Extensive promotion	Primarily Non-Resident - United States, Japan, United Kingdom, West Germany, however the market is very small and highly specialized. Some appeal to photo buffs, arnithologists, scientific study. There is a possibility of domestic market appeal with concentrated target marketing.	X	X	X limited		X	
Boat Tours - marsh boat, excursion boat oriented to resource interpretation. - i.e. Everglades type of boat tour. - Lake Athabasca cruises.	- Short season. - Changing river channels - No marine, camping or lodging facilities. - No outpost supply camps.	- Extensive waterways navigation mapping and marking. - Staging area. - Outpost camps for supplies - Financial assistance. - Development of marine campgrounds.	Primarily to the recreation oriented visitor, but also offers scenic viewing opportunities for the conventional tourist.	X	X	X	X		

Table VIII

Athabasca Sand Dunes

TOURISM OPPORTUNITY

DESCRIPTION OF OPPORTUNITY	CONSTRAINTS	DEVELOPMENT OPPORTUNITIES	MARKET APPEAL	SCENARIO FEASIBILITY			PRIORITY		
				S1	S2	S3	P1	P2	P3
- Scenic viewing, scientific and educational study and interpretation. - Highly unique natural feature.	- no access - no visitor services or Sand Dunes protection mechanisms in place. - shortness of visitor season - no accommodation or other visitor services. - Prone to environmental degradation.	- Provincial legislation and funding to establish the area. - Visitor services such as hiking trails, day-use facilities. - access route (possibility of boat road access), but would likely require road access. - Possibility would require some form of camping facility in close proximity or backcountry shelter.	Potential to northern Alberta residents with road access. Limited potential for safari-type visitor and scientific study visitor.	X			X		

Table IX

Slave River Rapids and Pelican Colonies

DESCRIPTION OF OPPORTUNITY	CONSTRAINTS	DEVELOPMENT OPPORTUNITIES	MARKET APPEAL	SCENARIO FEASIBILITY			PRIORITY		
				S1	S2	S3	P1	P2	P3
- Viewing, and wildlife interpretation. - White water float trips similar to Fraser River, Grand Canyon, Roque River tours.	- Damsite development would eliminate the resource. - At present, the resource is not a primary attraction. - Rapids are too dangerous for white water canoe tours. - Human intrusion by water (boat tours) may have negative effects on pelican breeding colonies.	- Viewing stations for rapids and pelicans. - Access to vicinity of pelican colonies possible, but not favoured, as pelicans require isolation from disturbances.	Limited to conservationists, ornthologists and to visitors already in the area. - Should appeal to white-water adventure seekers in domestic markets. - Appeal to European and possibly Japanese visitor. - Whitewater tours are presently offered by Wilderness River Encounters Ltd. on the Slave River.			X	X		

TOURISM OPPORTUNITY

Table X

Athabasca Tar Sands - Alsands

DESCRIPTION OF OPPORTUNITY	CONSTRAINTS	DEVELOPMENT REQUIREMENTS	MARKET APPEAL	SCENARIO FEASIBILITY			PRIORITY		
				S1	S2	S3	P1	P2	P3
- Viewing interpretation, educational study, industrial training. - Model after Fort McMurray Oil Sands Interpretation Centre proposal.	- Development agreement has not yet been reached between the various levels of government and private sector participants. - Primary focus would likely be out of Fort McMurray. - No road access from the study area at present. - High cost of developing interpretive centre.	- Commitment to proceed with plant development. - Integration of visitor facilities and tour programs into the planning and operation of the plant. - Road access from Fort Chipewyan. - Co-operation of private sector oil companies.	Limited to visitor already comitted to travel in the area.	X					X

TOURISM OPPORTUNITY

Table XI

Historic Sites and Archaeology

TOURISM OPPORTUNITY

DESCRIPTION OF OPPORUNITY	CONSTRAINTS	DEVELOPMENT REQUIREMENTS	MARKET APPEAL	SCENARIO FEASIBILITY			PRIORITY		
				S1	S2	S3	P1	P2	P3
- Viewing and interpretation of historic sites, archaeological finds, fur trade routes.	- Distance from markets. - No developed sites of national or international significance in the study area. - Shortness of season. - No access to sites.	- Extensive government financial support. - Long term site restoration and archaeological digs. - Road access and trail systems. - Would work in well with local events such as cultural or trapper festivals.	Limited and would likely have to be combined with other attractions and events to be successful. Appeal to the scientific community, educators and visitors in general.	X					X

Table XII

Wood Buffalo National Park

DESCRIPTION OF OPPORTUNITY	CONSTRAINTS	DEVELOPMENT REQUIREMENTS	MARKET APPEAL	SCENARIO FEASIBILITY			PRIORITY		
				S1	S2	S3	P1	P2	P3
Parks Canada programs and facilities throughout Wood Buffalo National Park include self-guided interpretive tours, guided tours, and information services to the visitor.	- Distance from markets. - Lack of roads and access internal to the park. - Sheer size limits management capability. - Lack of support staff. - Relatively uniform topography. - Short visitor season. - No commercial fixed-roof accommodation in the park.	- Increased staff for interpretive programs. - road access within the park. - Increased promotion. - Development of viewing areas for buffalo. - Increased camping and hiking opportunities. - Lodge accommodation within the Park.	Primarily to wilderness traveller at present. Road access improvements could broaden appeal to the conventional tourist.	X	X		X		

TOURISM OPPORTUNITY

5.3. Outdoor Recreation Opportunities

Climate imposes a severe limitation on participation in outdoor recreation activities within the study area. The relatively short summer season, cold winter temperatures, combined with a lack of significant drawing card recreation opportunities not found closer to potential markets, presents formidable obstacles to development of this sector of the tourism industry.

Biting insects are prevalent throughout the area, in sufficient numbers to be a strong deterrent to outdoor participation for the visitor unaccustomed to the northern environment.

Therefore, the opportunities presented have been viewed primarily in their overall support capacity to the rest of the analysis. Non-local resident participation or utilization of recreation facilities and opportunities as a primary incentive for travel to the region is not likely to increase to the extent needed to justify major capital expenditures, or to support private sector business ventures strictly in a recreation context.

Activities such as baseball, football, curling, swimming, hockey, etc., are not included in this description, as they are primarily of interest to local residents.

Tourism opportunities in this area are limted to:

- Boating activities.
- Sport fishing and hunting.
- Camping and hiking.
- Winter recreation.

Table XIII

Boating Activities

DESCRIPTION OF OPPORTUNITY	CONSTRAINTS	DEVELOPMENT REQUIREMENTS	MARKET APPEAL	SCENARIO FEASIBILITY			PRIORITY		
				S1	S2	S3	P1	P2	P3
Boat Tours - marsh boat, excurison boat, jet boat. - oriented to the Delta, the Athabasca, Slave, and Peace River systems, and Lake Athabasca.	- Short season - High cost of accessing the area. - Lack of backcountry accommodation facilities. - Unchartered waters. - May require road access for conventional visitor to the Fort Chipewyan area. - Distrubance to wildlife. - Parks Canada boating restrictions.	- Road access to Fort Chipewyan. - Development of Marine campgrounds. - Establishment of supply camps for food, gas and water. - Mapping for navigation. - Co-operation of Parks Canada.	Appeal to the backcountry boating enthusiast. Also appeal to the visitor for marsh boat tours in the Delta area, and excursion boat tours of Lake Athabasca. Appeal to the business traveller. Appeal to foreign markets Appeal to on-site construction labour force.	X	X	X	X		
Canoeing and Whitewater River Rafting. - possibility for circle tours in the Delta area for canoeists. - possible whitewater trips on the Slave River without dam-site development.	- Rapids for canoes on the Slave River. - No pull-out areas on rivers have been developed for canoes. - Isolation from emergency assistance. - Short season. - Biting insects.	- Development of marine campgrounds. - Concession in Wood Buffalo National Park, or Fort Smith and Fort Chipewyan. - Promotion and advertising. - Staging facilities. - Day trips as well as overnight and extended stay trips. - Well marked portage routes.	Wilderness traveller on rivers. General recreationist in the Delta area. Appeal to domestic and foreign market. Appeal to on-site construction labour force and business traveller, if day trips are developed.			X	X		

Table XIV

Sports Fishing and Hunting

DESCRIPTION OF OPPORTUNITY	CONSTRAINTS	DEVELOPMENT REQUIREMENTS	MARKET APPEAL	SCENARIO FEASIBILITY			PRIORITY		
				S1	S2	S3	P1	P2	P3
Sports Fishing - primarily oriented to Lake Athabasca and tributaries. - undeveloped opportunity on certain lakes in the Canadian Shield east of the Slave River.	- Lack of trophy fishing, primarily lake trout. - Limited fishing resource. - Active commercial fishery. - Dangerous boating on Lake Athabasca. - Competition for Northwest Territories and Saskatchewan fishing lodges, who offer superior trophy fishing. - High cost of fly-in fishing to outlying lakes. - No suitable visitor accommodation in Fort Chipewyan. - Little benefit to tourism facilities in Fort Smith or Fort Chipewyan.	- Local resident guiding. - Information and promotion. - Additional fishing lodges with low cost seasonal accommodation. - Financial assistance for lodge development or rental of camp units. - Road access to Fort Chipewyan would assist, but Fort Smith would likely function as the main staging area.	Market could be expanded to encompass United States visitors, but should focus on Alberta residents. Primarily a selected market of persons whose trip generator is sport fishing. Marginal business travel market potential.	X	X	X		X	
Hunting - primarily oriented to duck and geese hunting as a tourism factor.	- Limited resource. - Expensive for licensing of non-resident. - Competition from native hunters, and Indian Reserve boundaries. - High cost of transportation access to the area. - No road access.	- Local resident guiding. - Visitor staging primarily focused on Fort Chipewyan. - Acceptance of hunting as a tourism generator.	May have significant non-resident appeal. Could be promoted to West German markets.	X	X	X	X		

TOURISM OPPORTUNITY

Table XV

Camping and Hiking

DESCRIPTION OF OPPORTUNITY	CONSTRAINTS	DEVELOPMENT REQUIREMENTS	MARKET APPEAL	SCENARIO FEASIBILITY			PRIORITY		
				S1	S2	S3	P1	P2	P3
Largely oriented to Wood Buffalo National Park, but additional opportunities exist throughout the study area.	- Distance from markets. - No road access to much of the study area. - Lack of developed trails and campgrounds outside of Wood Buffalo National Park. - Shortness of season. - Biting insects. - Monotonous topography for hiking.	- increased road development - Campground development - Hiking trail construction to significant features or attractions. - extensive government funding. - increased information distribution and promotion. - road paving. - possible development of backcountry lodge and shelter system. - development of day hikes.	Limited to wilderness/nature tourist. More oriented to scientific and educational visitor. High cost of travel to the area discourages hiker/camper.	X				X	

TOURISM OPPORTUNITY

Table XVI

Winter Recreation

DESCRIPTION OF OPPORTUNITY	CONSTRAINTS	DEVELOPMENT REQUIREMENTS	MARKET APPEAL	SCENARIO FEASIBILITY			PRIORITY		
				S1	S2	S3	P1	P2	P3
Winter recreation is presently oriented to local events and attractions, and one or two tour operators in the region offering such activities as winter camping, dogsled tours, and cross-country ski tours.	- Severe winter climate. - Short daylight hours. - Distance from market. - Competition from mountain National Parks.	- Promotion and marketing to Northern Alberta residents	Very limited to the select, hardy wilderness adventurer. Highly specialized market. Local resident market including Yellowknife and Hay River. Some appeal to on-site construction labour force on a day-use basis.	X			X		

TOURISM OPPORTUNITY

5.4. Facility Development

Facility development needs in the study area can be divided between seasonal and year-round requirements. They are oriented to the needs of the business travel market, the outdoor recreation and interpretation market, and the local resident market.

The degree of capital intensity of development is dictated by the scenarios for dam-site development.

Little, if any major capital investment is warranted on fixed facilities if the Slave River hydroelectric project does not proceed. However, a range of facilities may be required and may be economically feasible under the scenario of dam-site development and road construction.

The aspect of providing low cost, seasonal, temporary accommodation and food service facilities merits further investigation beyond the scope of this overview. Self-contained removable trailer facilities have been successfully used in the tourism industry, paricularly in start-up operations in remote locations, such as the world-renowned helicopter skiing areas of eastern British Columbia.

Establishing a market is difficult without facilities in place. On the other hand, the shortness of the true visitor season, and costly distance of the study region from its nearest potential markets is a strong deterrent to risking major capital investments solely oriented at the tourism industry. Therefore a cautious and deliberate approach to facility development is warranted, until such time as more intensive analysis of each opportunity overview is or can be completed.

In any event, the requirements for fixed and seasonal accommodation will be closely tied to the fortunes of the business travel market. The tourism resources are limited, and too seasonal to support an economically viable private sector which relies totally on pleasure travel.

Unique or special consideration financial program assistance in the form of low cost loans, grants, subsidies, and in some cases direct government financial participation will be necessary if tourism development of any kind is to be undertaken and survive.

It is also questionable whether development can take place with the limited expertise and commitment in the area. Outside financial and human resources may be required either to act as a catalyst for a localized tourism industry, or as a long term business partner.

Further, government participation and support in product marketing is absolutely essential if any real inroads are to be made in making the existing and potential visitor market aware of opportunities. The private sector and government will have to co-operatively develop programs to enhance visitor awareness in both the business and pleasure travel sectors of the market.

Table XVII

Facility Development

TOURISM OPPORTUNITY

DESCRIPTION OF OPPORTUNITY	CONSTRAINTS	DEVELOPMENT REQUIREMENTS	MARKET APPEAL	SCENARIO FEASIBILITY			PRIORITY		
				S1	S2	S3	P1	P2	P3
Seasonal or temporary accommodation. - industrial trailer type camp units. - suitable for safari-type adventure tours. - suitable for scientific/ educational tours.	- Access to sites for movement of guests and supplies - High cost of bringing in this type of accommodation. - Lack of attractiveness to foreign visitors.	- Suitable site locations. - Co-operation of Parks Canada. - Financial assistance. - Access other than air transportation.	Suitable to safari or wilderness enthusiast who requires fixed-roof accommodation.	X	X		X		
Permanent fixed-roof accommodation and food services. - hotel, motel, lodge. - cabins, restaurants.	- High development costs. - Short season. - Long term debt retirement required. - High risk - low liquidity. - High occupancy rates and charges necessary to offset capital costs. - High maintenance costs. - Forest fire risk in remote areas. - Probability of low local resident patronage.	- Established markets are necessary. - Paved roads. - Expanded sport fishing. - Government land leases and financial assistance. - Marketing and promotion.	Business traveller and conventional tourist trade. Tour bus market, packaged tour market.	X					X
Campground Development	- Shortness of seasons. - Limited market. - Little potential for private sector investment. - Few all-weather roads.	- Expanded government involvement. - Expanded road network, road paving	Outdoor enthusiast, road traveller, hiker.	X				X	
Marine, Docking, Boat Rentals.	- Shortness of season. - Capital intensive. - Requires outpost supply camps or fuel caches. - Visitor safety.	- Visitor staging facilities. - Marine campgrounds.	Could appeal to a broad market spectrum of all visitors to the area. Business traveller. On-site construction workers.	X	X			X	
Backcountry lodge, shelters	- Primarily oriented to the non-paying recreationists. - Little opportunity for private sector.	- Expanded hiking trail and marine waterway system - Government financial support.	Outdoor enthusiast.	X	X			X	

5.5. Local Resident Participation

In order to develop and maintain a healthy tourism industry, local resident support in all aspects of the industry is essential. As tourism is primarily service oriented, there must be an attitude amount local residents that tourism is desirable, beneficial, and enjoyable as part of their socio-economic framework.

A common problem in remote and isolated communities is a sense of animosity towards newcomers intent on capitalizing on potential tourism benefits and opportunities. This in turn can create a negative and even hostile environment for the visitor, which will destroy any efforts, no matter how well intentioned, to sustain a healthy tourism economy.

Initial reaction from Fort Chipewyan residents during one on-site visit, to the proposed impacts and benefits of the hydroelectric project, and possible road construction, was one of mixed feelings, with a negative perspective on change. However, a detailed survey has not been performed which could measure local resident attitudes and desires for participation in an expanded tourism industry.

The entire study area has not be subjected to a influx of outsiders in the past. This will surely occur if construction of a project proceeds. If a major self-contained construction camp for workers is established, the impact upon the Town of Fort Smith would be substantially less.

Fort Smith is in a much better position to accommodate an expanded tourism industry than is Fort Chipewyan, having a more established and active business community with direct road access. Fort Smith has not had to contend with the same degree of isolation that Fort Chipewyan has, and consequently may be more receptive to incoming visitors.

Three factors are essential for an expanded tourist industry in the study area. A hospitality sector training program is essential for local residents if a viable tourism industry is expected to prosper. Secondly, a

comprehensive educational program directed at local residents would assist in explaining the components of the tourism industry, the opportunities and benefits, some of the shortcomings, and pitfalls, and the overall impact upon a community. Thirdly, a realistic assessment of the short and long term financial program needs of the local tourism industry is required to be undertaken jointly by governments and the private sector, prior to any construction activity being undertaken. Local resident participation has been analyzed on the basis of opportunities in Outdoor Education and Interpretation, Outdoor Recreation, and Facility Development.

Local Resident Participation

DESCRIPTION OF OPPORTUNITY	CONSTRAINTS	RESIDENT REQUIREMENTS AND EMPLOYMENT POTENTIAL	SCENARIO FEASIBILITY			PRIORITY		
			S1	S2	S3	P1	P2	P3
Outdoor Education and Interpretation	- Lack of hospitality sector training for local residents. - Lack of suitable financial sources for capital investment due to: • shortness of season • lack of access • inadequate accommodation facilities	- Hospitality training program. - Environmental education program. - Adhere by resident staff to time schedules. - Financial lending programs specially geared to the study area. - Government action on site identification, site availability, and access. - Guiding, interpretation. - Small business opportunity in communities.	X	X	X	X		
Outdoor Recreation	- Shortness of season - Resident tolerance of the local environment may be significantly greater than visitor tolerance. - Insufficient local financing. - Inadequate transportation system.	- Hospitality training. - "Teacher" training. - Guide and outfitting training. - Guiding opportunities. - Labour required for trail cutting, campground development, facility construction and operation. - Outside capital investment. - Covernment sponsored grants, low cost loans or subsidies. - Requires road access.	X			X		
Facility Development	- Shortness of season - Unskilled labour force. - Unsuitable financing. - Poor long term debt retirement. - Parks Canada development policy. - Requires commitment for hydroelectric project go-ahead.	- Requires a fairly comprehensive job training program. - Uniquely tailored lending programs. - Acceptance of migrant skilled work force in some areas. - Training in business and management skills. - Active business community - Employment potential is fairly good for the construction period, but relatively poor for on-going operations without training programs.	X				X	

TOURISM OPPORTUNITY

5.6. Summary

The most immediate opportunities appear to lie with expansion in the outdoor sector. Modest capital expenditures may be required in some areas, and resident participation can be increased by the introduction of training programs.

A significant effort by governments will be required in the areas of promotion, training, and financing to help support a tourism industry.

However, there must be a resident consensus that tourism is not only desirable, but wanted in the area if there is to be any chance of success in the long run.

The business traveller dominates the existing and future travel market, and greater attention is required to develop opportunities catering to leisure time while on a business trip. Conceivably this could result in extended stay during business/pleasure travel.

Facility developments require fairly extensive capital expenditures, and will likely only be accomplished through approval of the hydroelectric project. In addition, outside labour and capital may be required to implement facility developments of a larger scope.

The possibility of establishing temporary outpost camps or lodges should be fully investigated as a means of appealing to market potentials at a minimum of capital expenditure. This could assist the adventure tour market, the business travel market, and the scientific/educational tour market. Rental of industrial-type trailer units may be possible, on a co-op basis, where each operator or group could book time according to their needs. Full time employment could be generated, and greater utilization of facilities would be accomplished. Camp units would contain sleeping, dining and recreation facilities. They can be installed and removed by air, boat, or during winter months, over ice or on winter roads.

Prior to the implementation of any development opportunity, local residents, government, the private sector, and development consultants should engage in a comprehensive workshop approach to the study region, and try to formulate a planning and development strategy under the various scenario situations. In this way, all parties concerned will gain a greater appreciation and understanding of the needs, requirements, constraints, and attitudes towards future development of the tourism industry in Fort Smith and Fort Chipewyan regions.

6. Recommendations

1. Whether a hydroelectric project is developed or not, local resident training and awareness programs should be instituted in the study area. These programs would prepare existing and potential operators and employees for a tourism industry that has potential for development, as this analysis has found. The greatest opportunities for tourism lie with the greater utilization of the physical, natural and historic resources of the region.

2. Detailed impact analysis should be carried out to determine the positive and negative effects of the Liard Highway on Fort Smith, when it is completed in 1983.

3. If a decision is made to proceed with the hydroelectric project, more extensive research will have to be conducted on the effects of relocating the white pelicans. This recommendation is being made without the knowledge of the results of a similar study presently being conducted by the Environmental Assessment Section, Planning Division, Alberta Department of Environment. Results of this study are to be released mid-1982.

4. To maximize the utilization of the physical, natural and historic resources of the study region, it is recommended that a detailed inventory be carried out. The goal or objective being a tool for implementation as part of an overall regional tourism development plan. The Fort Chipewyan office of Alberta Forest Service is presently preparing a five year recreational plan for northeastern Alberta. The area included in the plan covers the Slave River and Athabasca River, east to the Saskatchewan border, north to the Northwest Territories border and south to Fort MacKay.

   There seems to be a strong commitment by the Alberta Forest Service to develop the Athabasca River for recreational use as well as other prime recreation areas in northeastern Alberta. In light of this effort, it would be desirable to support their work in which ever way is possible.

The staff person at Fort Chipewyan feels there is potential for tourism and recreation to develop, but it will be slow in developing due to seaonality, limited product, insufficient manpower for guiding/outfitting and limited capital.

5. It is recommended that an interpretive centre be developed if the hydroelectric project proceeds, incorporating information on the dam-site, the local and regional resource base, attractions, facilities and events. This interpretive centre would serve a number of purposes:
   a. public service and information
   b. tourist attraction
   c. a permanent record of the transportation history, the rapids (which would be flooded) and the pelicans (which would have to be relocated).

   Investigation carried out to date would indicate adequate information and experience is available from other hydroelectric authorities to be incorporated into an interpretive centre. A significant amount of local cultural and transportation history can be part of this centre (i.e. fur trade routes, native peoples, etc.).

   In conjunction with the above recommendations, consideration should be given to the restoration of some of the area's history. Examples are Bell Rock and Fitzgerald.

6. Caution should be the rule for study area residents with respect to the long term tourism and recreation benefits of the hydroelectric project after construction.

7. An analysis of financial needs and programs is required from all lending sources available prior to making any committals to facility development, or capital intensive opportunities. Conventional financing terms and conditions are inappropriate to meet the seasonality requirements of this area.

Table 11

AIRCRAFT MOVEMENTS

FORT CHIPEWYAN

Year	Total Aircraft Movements
1973	3,105
1974	5,454
1975	5,514
1976	6,213
1977	5,639
1978	5,982
1979	8,910
1980	5,637

Source: Transport Canada - 1980 Summmary

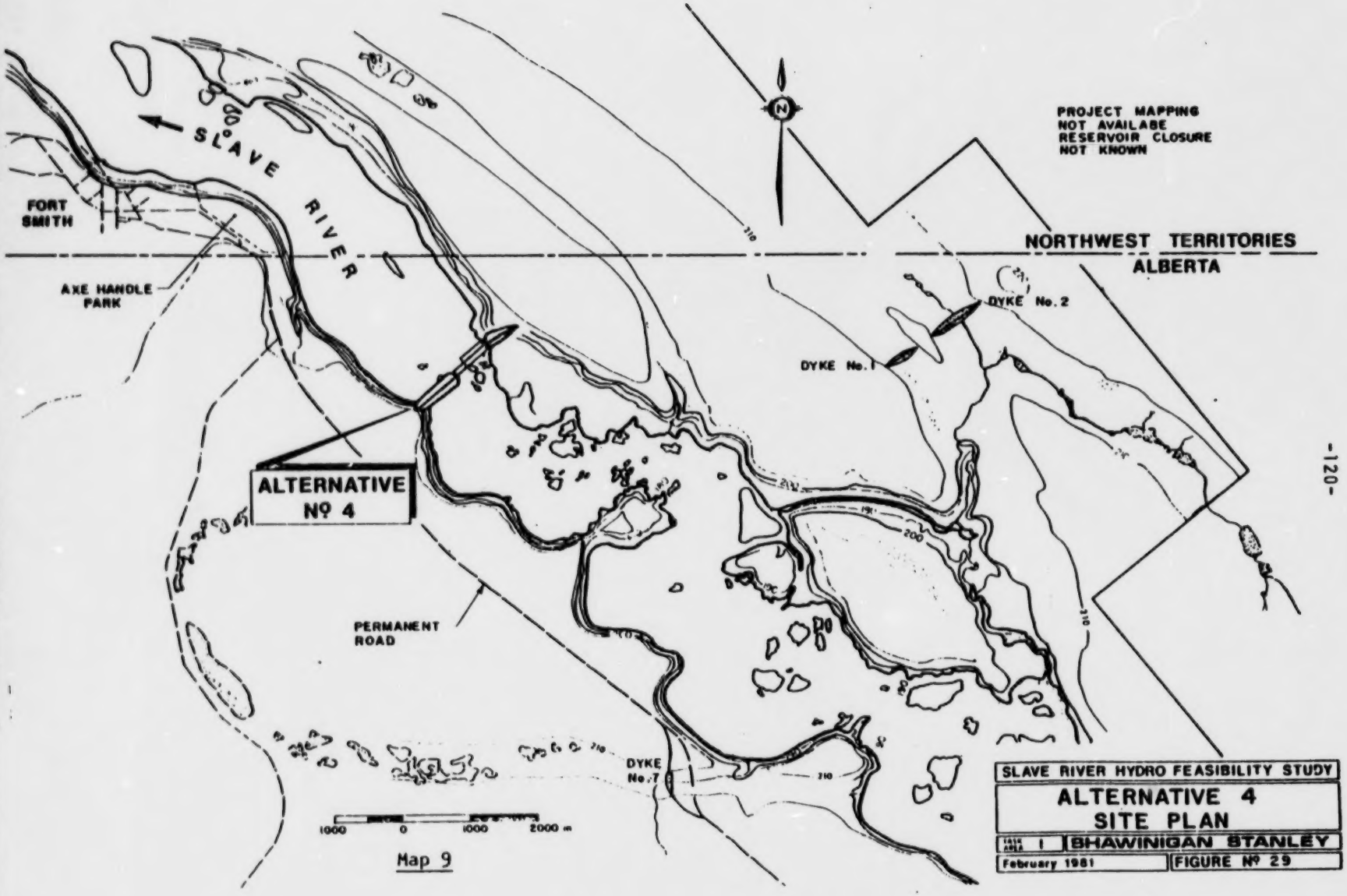
Table III

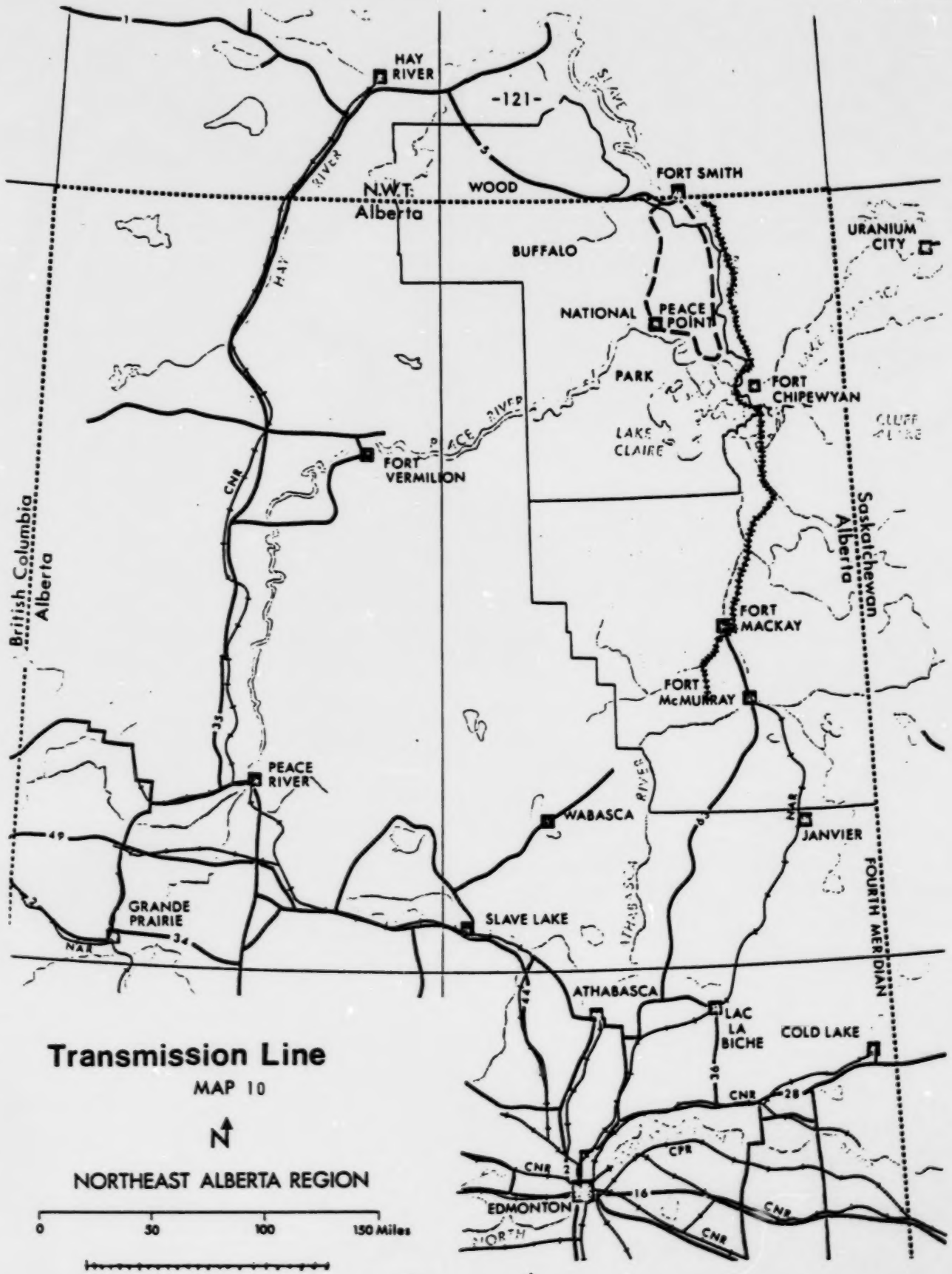
AIRCRAFT MOVEMENTS

FORT SMITH

Year	Total Aircraft Movements
1970	5,079
1975	7,106
1976	8.961
1977	11,671
1978	11.091
1979	10,579
1980	10,500

Source: Transport Canada - 1980 Summary


SLAVE RIVER
FORT SMITH
AXE HANDLE PARK
NORTHWEST TERRITORIES
ALBERTA
PROJECT MAPPING NOT AVAILABE
RESERVOIR CLOSURE NOT KNOWN
DYKE No. 2
DYKE No. 1
ALTERNATIVE Nº 4
PERMANENT ROAD
DYKE No. 7
1000 0 1000 2000 m
Map 9
SLAVE RIVER HYDRO FEASIBILITY STUDY
ALTERNATIVE 4
SITE PLAN
BHAWINIGAN STANLEY
February 1981
FIGURE Nº 29

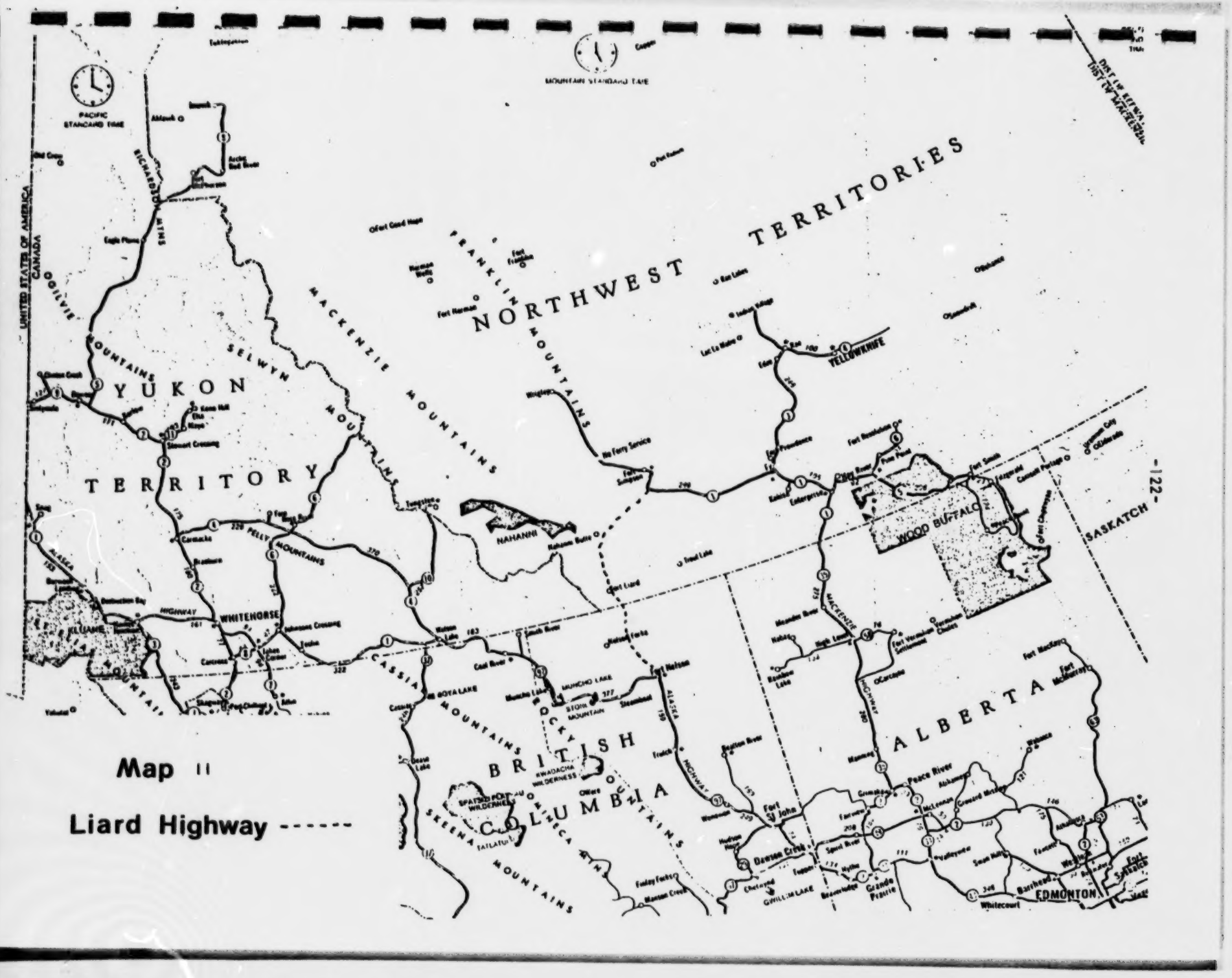


Transmission Line

MAP 10

N

NORTHEAST ALBERTA REGION


NORTHWEST TERRITORIES
YUKON TERRITORY
ALBERTA
BRITISH COLUMBIA
MOUNTAIN STANDARD TIME
PACIFIC STANDARD TIME
UNITED STATE OF AMERICA
CANADA
YELLOWKNIFE
WHITEHORSE
FORT NELSON
FORT ST JOHN
DAWSON CREEK
PEACE RIVER
GRANDE PRAIRIE
EDMONTON
WOOD BUFFALO
NAHANNI
MACKENZIE MOUNTAINS
FRANKLIN MOUNTAINS
SELWYN MOUNTAINS
OGILVIE MOUNTAINS
PELLY MOUNTAINS
CASSIAR MOUNTAINS
ROCKY MOUNTAINS
SKEENA MOUNTAINS
Map II
Liard Highway ------

APPENDIX A

Transportation Services

FORT SMITH

• Air Service	Schedule:	Equipment:
Pacific Western Airlines	Scheduled service daily from Edmonton to Fort Smith. One flight in and one flight out of the community.	737 Jets
Buffalo Airways Ltd.	Provides charter air service. Headquarter's in Fort Smith with bases in Fort Simpson and Hay River.	DC-3, Navaho, Gazelle, Alouette, Bell 206 and Hughes 500D helicopters.
Fort Smith Air Services	Provides charter air service. Based in Fort Smith.	Beaver, Cessna 185, wheels, skis, and floats.
Air Providence Ltd.	Scheduled and charter air service, connecting Fort Providence with Yellowknife, Fort Simpson, Hay River, Pine Point and Fort Smith.	Piper Lance, Cessna 185, wheels, skis, floats.
• Bus Service		
N.W.T. Coachlines (1979) Ltd.	This busline is based in Hay River, with a service office in Fort Smith. Daily trips provided between Hay River, Pine Point, and Fort Smith, except Sundays and statutory holidays.	
Flying Dutchman Bus Lines	This busline is based in Hay River and offers charter bus service.	

APPENDIX A

Transportation Services (cont'd)

• Railroad Service	Schedule:	Equipment:
	There is no railroad service to Fort Smith. Railroad service (cargo) runs along the MacKenzie Highway, along Highway #2 and ends at Pine Point, 288 road kilometers northwest of Fort Smith.	
FORT CHIPEWYAN		
• Air Service		
Pacific Western Airlines	Scheduled service is provided three times weekly.	
Noralta Flights	A land-based and float charter plane operation based in Fort Chipewyan.	
• Bus, Railroad Service	There is no railroad, bus service, truck service or other public carrier in Fort Chipewyan.	
HAY RIVER		
• Air Service		
Pacific Western Airlines	Scheduled service daily from Edmonton. One flight in and one flight out of the community.	737 Jets
Air Providence Ltd.	Provides scheduled air service twice weekly from Fort Providence, connecting with Yellowknife, Fort Simpson, Hay River, Pine Point and Fort Smith. Charter air service is also provided.	Piper Lance, Cessna 185

APPENDIX A

Transportation Services (cont'd)

HAY RIVER	Schedule:	Euipment:
Ptarmigan Airways Ltd.	Provides scheduled service once a week on Sunday from Yellowknife to Lac La Martre, Rae Lakes, Snowdrift, Fort Resolution, Pine Point, and Hay River. Also provides charter air service.	Twin otters, piper chieftain, piper navaho, aztec, turbo beaver, cessna 185
Buffalo Airways Ltd.	Provides charter air service. See Fort Smith section for details.	
Carter Air Service	Provides charter air service from Hay River.	Twin otters, and single otters
Landa Aviation	Provides charter air service from Hay River.	
• Bus Service		
Canadian Coachways Systems	This bus operation orignates in Edmonton and runs daily to Hay River via Peace River, Alberta.	
N.W.T. Coachlines (1979) Ltd.	This bus operation originates in Hay River providing service three times weekly to Yellowknife, daily to Pine Point and Fort Smith (except Sundays and holidays), and three time weekly between Hay River, Pine Point and Fort Resolution.	
• Railroad	There is no passenger rail service available. Hay River is serviced by the Great Slave Lake Railway, operated by Canadian National Railway, for freight only.	

APPENDIX B

Community Services

FORT SMITH AND VICINITY

(i) Retail Services

Fort Smith enjoys a wide variety of retail services. Following is a list of retail services that may be of interest to visitors of the area:

- Wally's Drugs (drug store)
- The Bay (food, dry goods, hardware, canoe rental)
- Kaiser's Store (dry goods, food)
- Purple Cow (dry goods and grocery)
- W. & T. Liquor Agency (spirits, wine, beer, cigarettes, ice, mix)
- Links Hardware (hardware goods)
- BDB Properties Ltd. (sporting goods)
- Fort Smith Workshop Ltd. (ski shop, largest selection anywhere of Northern Books in print, maps, Northwest Territories publications, weaving studio)
- Ice Worm Sporting Goods (sporting goods and recreation equipment)
- The Craft Corner (craft supplies and weaving)
- North of 60 Fashions (northern handicrafts, arts & crafts, wearing apparel, sewing products)

(ii) Service Sector

Fort Smith also enjoys a relatively good selection of service sector facilities. Following is a list of service sector facilities that may be of interest to the visitor:

- J. & M. Enterprises (service station, complete parts and servicing, car and truck rentals)
- Lou's Small Engines (day/week/month rental of snowmobiles, motorbikes,

APPENDIX B

Community Services (cont'd)

aluminum boats, outboard motors, boat trailers, water recreation equipment, and repair of small engines)

- Gulf Service (service station)
- Piche's Garage (service station)
- P. A. Appliances and Laundromat (laundromat providing 7 washers and 7 dryers)
- Canada Post Office
- Canadian Imperial Bank of Commerce
- Slave River Journal (newspaper)
- Edmonton Journal (newspaper available in community)
- Hair Care Centre (hair salon)
- Chris's Hairstyling (hair salon)
- WayBar Holdings Ltd. (theatre: seats 270 persons and convenience store)
- Cambi Northern Specialists (C.B. Specialists)
- Guy's Photo Service (photography)
- Fort Smith Restaurant Ltd. (restaurant at Pinecrest Hotel)
- Wine Rack Ltd. (dining room restaurant)
- Rendezvous Inn (small cafe, eat-in, take-out food)
- Ferguson Agencies Ltd. (travel agency, tour operator and insurance)
- Arctic Cabs (taxi)
- Pacific Western Airlines (scheduled air service)
- Buffalo Airways Ltd. (charter air, car and truck rental (Avis) services)
- Fort Smith Air Services (charter air service)
- Pinecrest Hotel
- Cariboo Trailer Park Ltd. (trailer court)

APPENDIX B

Community Services (cont'd)

- Air Providence Ltd. (charter air service)
- Pelican Rapids Inn (motel)
- Canoe Arctic Inc. (outfitter/naturalist tours)
- Sub-Arctic Wilderness Tours (tour operator/outfitter)

(iii) Recreation Facilities

Recreation facilities within the Town of Fort Smith include:

- Ball Parks - 5 diamonds
- Arena - for hockey, broomball, figure skating
- Curling Club - 3 sheets of ice
- Swimming - indoor, heated with organized programs
- Tennis Courts - outdoor, hard surface and used as required
- Golf Course - 7 holes
- Community Parks - 5 within the community
- Cross-country ski trails operated by the Fort Smith Ski Club
- Cross-county motorcycle trails
- Parks Canada headquarters and information centre
- Cinema Theatre
- Town Visitor Information Centre in Conibear Park
- Recreation Clubs and Leagues: Lions Club, Royal Canadian Legion, Overture Concert Association

(iv) Public Health and Safety

Fort Smith has relatively well developed medical facilities. There is an ambulance service operated by 4 volunteers.

APPENDIX B

Community Services (cont'd)

Physical facilities include a Federal Medical Clinic for treatment of Inuit and Treaty Indians and a new hospital. The hospital contains 25 beds of which 15 are for short-term care and 10 for long-term care. The occupancy rate during 1980 was 42% for the short-term beds and 13% for the long-term beds. The hospital also houses public health services, social services, out-patient care, and has surgical facilities. The surgical facilities are not presently utilized. Patients requiring surgery are sent to either Yellowknife or Edmonton. Current hospital staff is 37 full time employees, supplemented by 2 part-time staff as the need arises. It is estimated the hospital facilities could handle an additional 2,500 population in Fort Smith without the necessity for expansion. Medical staff would probably need to be increased proportionately even though the hospital may be over staffed for the existing workload.

The Federal Medical personnel include 3 doctors, 9 nurses and one optha-mologist.

Fort Smith also has the School of Dental Therapy where 4 dentists reside and also serve the needs of the community.

There is adequate capacity to handle significant population increases in Fort Smith medical facilities.

Public safety in Fort Smith is provided through the Royal Canadian Mounted Police. During 1981 there were 10 constables on staff in Fort Smith.

(v) Churches and Cultural Organizations

The following religious denominations are represented by Fort Smith churches: Roman Catholic, Anglican Mission, Baha'i Faith, Church of the Nazarene, and Bethel Pentecostal Assembly. Fort Smith is the headquarters of the MacKenzie Region for the Roman Catholic Church.

APPENDIX B

Community Services (cont'd)

Some of the civic organizations and service clubs in the community of Fort Smith include: Lions Club, Royal Canadian Legion, Fort Smith Chamber of Commerce, and the Overture Concert Association.

FORT CHIPEWYAN AND VICINITY

(i) Retail Services

Fort Chipewyan has a limited variety of retail services. Following is a list of retail services that may be of interest to visitors of the area:

- The Hudson's Bay Company (food, dry goods)
- CMC Co-Op Store (food/dry goods)
- Chadi's Store (food/dry goods)

(ii) Service Sector

The service sector in Fort Chipewyan is also very limited. Following is a list of services that may be of interest to visitors:

- Mah's Gulf Dealership (service station)
- Chadi's Garage (auto service)
- Alberta Treasury Branch (part-time bank)
- Hudson's Bay Company (provides money cashing priveleges)
- Chadi's Cafe
- Athabasca Cafe
- Caribou Cafe
- Caribou Lodge and Rooms
- Chadi's Rooms
- Chadi's Taxi (fleet of 3 vehicles)
- Pacific Western Airlines (scheduled air service)

APPENDIX B

Community Services (cont'd)

- Noralta Flights (charter air service)
- Wood Buffalo Wild Life Tours (operator/outfitter)

(iii) Recreation Facilities

Recreation facilities in the town of Fort Chipewyan include:

- Curling rink
- Recreation centre (currently under construction)
- Baseball diamonds
- Wood Buffalo National Park Ranger Station

(iv) Public Health and Safety

The major community health programs in Fort Chipewyan are the T.B. detection program and a Well Baby Clinic.

There is no hospital in Fort Chipewyan. The only health facility is the Federal Health Centre which is located in a new building. This facility can provide emergency treatment, but patients requiring hospitalization must go to Fort McMurray, 216 kilometers to the south. In an emergency situation, an ambulance must come from Fort McMurray and this causes considerable delay. There is a local ambulance to bring patients to the Medical Centre or take them to the airport.

There is no resident doctor in the community. A doctor from Uranium City, Saskatchewan, visits the community 2 days each week and practices at the Medical Clinic. Fort Chipewyan is visited every 3 months by an optometrist and dental services are provided by a dentist from St. Paul who visits the community semi-annually.

Public safety in Fort Chipewyan is provided through the Royal Canadian Mounted Police. During 1981, there were 3 constables of staff. Equipment included 2 vehicles and one helicopter.

APPENDIX B

Community Services (cont'd)

(v) Churches and Cultural Organizations

The following religious denominations are represented by Fort Chipewyan churches: Roman Catholic (resident), Baptist Church (resident) and Anglican Church (visits the community every 2 weeks).

Some of the civic organizations and service clubs in the community include: Fort Chipewyan Chamber of Commerce, Fort Chipewyan Community Association and the Eyapashak (Delta) Handicraft Club.

HAY RIVER

(i) Retail Services

Hay River enjoys a wide variety of retail services. Following is a list of retail services that may be of interest to visitors of the community:

- Hay River Bakery Co. Ltd.
- Hay River Meats Ltd.
- Red Rooster Groceteria (grocery store)
- The Slave Market Ltd. (grocery store)
- Smiley's (grocery store)
- Warehouse Discount Food (grocery store)
- Freshwater Fish Stores
- Super A Foods (grocery store)
- Don Wright Hardware Ltd. (hardware and sporting goods)
- Hay River Sports and Hobby (sporting goods)
- Igloo Building Supplies Ltd. (building supplies and sporting goods)
- Northern Jewellery & Gift Shop (gift store)
- The Present Place (gift and florist store in Ptarmigan Inn)
- Ring's Drug Store

APPENDIX B

Community Services (cont'd)

- The Hudson's Bay Company (dry goods)
- Discount Clothing
- Godwin Stores Ltd. (dry goods)
- Sears (dry goods)

(ii) Service Sector

Hay River also enjoys a wide variety of service sector facilities. Following is a list of those services that may be of interest to the visitor:

- Back Eddy (lounge)
- Hay River Auto Body
- Caribou Motor Inn (facilities include lounge, restaurant, accommodation)
- Ptarmigan Inn (has full range food and beverage shops, accommodation)
- Allen's Service & Equipment (auto, snowmobile, motorcycle parts and servicing)
- Arctic Offshore Ltd. (charter boats)
- Avis Truck and Car Rentals
- Carter Air Service Ltd. (charter airline)
- Charts Unlimited (topographical, air nautical maps, charts & publications)
- Ferguson Agencies (Hay River) Ltd. (travel agency, tour operator, insurance, real estate)
- Hay River Cycle & R.V.'s
- Hay River Esso Service (gas and auto service)
- Hay River Mobile Park
- Hay River Motel (accommodation and food services)
- Hay River Shell Services (gas and auto service)
- Hay River Veterinary

APPENDIX B

Community Services (cont'd)

- Hub Publications Ltd. (newspaper and local periodicals)
- Pizza Patio (restaurant and take-out food)
- Roy's Dairy Bar (take-out restaurant)
- The Wagon Wheel (restaurant)
- Igloo Theatre (movie theatre)
- J.C.R. Car & Truck Rental
- Jay Auto Body
- Keith's Coin Wash (car wash)
- Lucien's Barber Shop (hair salon)
- Migrator Hotel (accommodation)
- N.W.T. Coach Lines (charter bus service)
- Roslind's Hairstyling and Beauty Boutique (hair salon)
- Tapwe (newspaper - southern daily)
- Tilden-Rent-A-Car
- Hay River Motors Ltd. (Gulf service station)
- Royal Bank
- Canadian Imperial Bank of Commerce
- Pacific Western Airlines (scheduled air service)
- Buffalo Airways (charter air service)
- Landa Aviation (charter air service)
- John's Cartage and Rental Service Ltd. (vehicle and boat rentals)
- N.W.T. Rentals
- Hay River Sports & Hobby (boat rentals)
- R.A.M. Enterprises Ltd. (boat rentals)
- Ace Taxi

APPENDIX B

Community Services (cont'd)

- United Cabs
- Yellow Cabs
- Mackenzie Place (furnished apartments)
- Post Office
- Northwestel (telegram service)
- Old Hay River Hotel

(iii) Recreation Facilities

Recreation facilities within the town of Hay River include:

- ice arena
- curling rink
- roller skating rink
- golf course
- swimming pool (indoor)
- two beach areas
- theatre
- sauna baths
- ball diamonds
- tennis courts
- three school gymnasiums
- Territorial Centennial Library
- N.W.T. Public Library Services (makes its home in Hay River which circulates some 40,000 books throughout northern settlements).

APPENDIX B

Community Services (cont'd)

(iv) Public Health and Safety

Hay River enjoys a full range of medical and dental facilities. There is a hospital in Hay River known as the H. H. Memorial. This hospital is operated by the Pentecostal Assembly of Canada and is one of the most modern hospitals north of Edmonton, Alberta. This 50 bed institution was built specifically for the Friesen technique of health care, whereby one rather than a team of nurses, attend to needs of an individual patient. The hospital is capable of providing full scale services including surgical needs. Medical personnel on staff include four doctors and forty-four nurses.

There is one public health centre in the community staffed by a personnel of three persons. There is one dental clinic in Hay River staffed by two dentists.

Firefighting and ambulance service is provided within the community by thirty-five community volunteers. Public safety in Hay River is provided through the Royal Canadian Mounted Police. A new detachment building was completed in 1980 and staff personnel include fourteen constables.

(v) Churches and Cultural Organizations

Religious denominations represented in Hay River include; Anglican Church, Bahai Faith, Baptist Church, Church of Jesus Christ of Latter Day Saints, Jehovah's Witness, Pentecostal Chapel, Roman Catholic Mission and the United Church of Canada.

Some of the civic organizations and service clubs in the community include Friendship Centre, Chamber of Commerce (information centre opened from June - September in town arena), Royal Canadian Legion 250.

APPENDIX C

Regional Accommodation Facilities

FORT SMITH AND VICINITY

• Hotel/Motel	Facilities:
Pelican Rapids Inn	Located in downtown Fort Smith, Pelican Rapids Inn is a modern motel with 50 rooms accommodating 130 persons. Facilities include carpeting, full bath, phone, radio, color T.V., plug-in, meeting room accommdating 20 persons. No dining facilities. Open year round.
Pinecrest Hotel	Located near Wood Buffalo National Park and open all year round. This hotel has 28 rooms accommdating 48 persons. Facilities include phone, color T.V., cocktail lounge, licensed dining room and coffee shop.
• Trailer Parks	
Cariboo Trailer Park Ltd.	This mobile park offers lots for either mobile homes or holiday trailers. Services (water and sewage) included in rent.
• Campgrounds	
Polar Lake (unorganized campsite)	Located 15 kilometers west of Highway Junctions #5 and #6. Facilities include private stocked lake, swimming; no motor boats allowed.
Little Buffalo Falls (campsite and picnic site)	Located on the Little Buffalo River in Wood Buffalo National Park. Campground includes 5 campsites and 5 picnic sites. Facilities include kitchen shelter, pit privies, but no drinking water. This site is the beginning of a canoe route that crosses Highway #6.

APPENDIX C

Regional Accommodation Facilities (cont'd)

FORT SMITH AND VICINITY

Thebacha (private campground)	Located 16 kilometers north of Fort Smith, this campground is owned and operated by the Metis Association of Fort Smith. Facilities include 8 campsites, 3 double unit toilets and adjacent parking space.
Fort Smith Campground (campground and picnic site)	Located near the Slave River and Wood Buffalo National Park on the airport road. Facilities include 18 campsites, and 12 picnic sites. Drinking water available, kitchen shelter and dumping station, hiking and fishing.
Fort Fitzgerald (unorganized campsite)	Located 14 kilometers south of Fort Smith. There are no facilities at this site; however there is a bush road (16 kilometers) leading to back-country.

FORT CHIPEWYAN AND VICINITY

• Hotel/Motel	
Cariboo Lodge and Rooms	Located in the Town of Fort Chipewyan, offering accommodation with approximately 8 - 10 rooms.
Chadi's Rooms	Located in the Town of Fort Chipewyan, offering accommodation with approximately 6 rooms.
• Campgrounds	
Dore Lake Recreation Area (campground and picnic site)	This campsite is located 10 kilometers north of Fort Chipewyan via a gravel road, and is operated by Alberta Forest Service The campsite is located on a small lake with primitive facilities for day use, picniking and 10 unit camping facilities.

APPENDIX C

Regional Accommodation Facilities (cont'd)

HAY RIVER

	Facilities:
• Hotel/Motel	
Caribou Motor Inn	Located in Hay River, the Caribou Motor Inn is a year round motel with 29 rooms accommodating 90 guests. Facilities include phones, television, plug-in, full bath, licensed cocktail lounge and restaurant.
Migrator Motel	Located in Hay River, the Migrator Motel is a year round establishment providing 18 units and 6 kitchenette units. Facilities include phone, television and full bath.
Ptarmigan Inn	Located in Hay River, the Ptarmigan Inn is a year round full service hotel with 43 rooms to accommodate 85 guests. Facilities include television, radio, full bath, full range food and beverage shops and banquet room.
Old Hay River Hotel	Located on the island, this hotel has 41 rooms to rent by day, week or month.
• Apartment Hotel	
Mackenzie Place	Located in downtown Hay River, this establishment provides furnished apartments for rent by day, week or month. Every apartment includes cooking facilities and supplied with all cooking utensils, color television available. This building contains 107 apartments and on the main floor is one office and 6 retail stores.

APPENDIX C

Regional Accommodation Facilities (cont'd)

HAY RIVER

• Campgrounds	Facilities:
60th Paralell (campground and picnic site)	Located adjacent to the visitor information centre at the Alberta/Northwest Territories border, overlooking Hay River. Facilities include 12 campsites, and 8 day-use areas. Other facilities include kitchen shelters, drinking water and dumping stations.
Louise Falls (campground and picnic site)	Located off Highway #1, north of the Alberta/Northwest Territories border, enroute to Hay River. This site is located downriver from Alexandra Falls, and includes 18 campsites, and 10 day-use areas. Facilities include kitchen shelters, drinking water, trails to lookout points and fishing at the foot of the falls.
Hay River (campground)	This campground is located on the lakeshore in the "Old Town" section of Hay River on Vale Island. Park has 22 campsites but no day-use facilities. Facilities include kitchen shelters, drinking water, boat launch, and dumping station in new town.
Lady Evelyn Falls (campground and picnic site)	This campsite is about 6.5 kilometers off Highway #1 on the road leading to Slavey Indian village of Kakisa. This campground includes 10 campsites, 5 recreation vehicle sites, day-use areas, drinking water and kitchen shelters. Swimming, fishing, hiking available.
Paradise Gardens Capground (private campground)	This campground is located off Highway #2 from Enterprise to Hay River. Campground includes 6 campsites, 9 recreation vehicle sites with electic plug-ins. Facilities include showers, water, fireplaces, kitchens, tables, sanitary dump, and power. Nearby attractions include fossils, canoeing and fishing on Hay River.

APPENDIX C

Regional Accommodation Facilities (cont'd)

FISHING AND HUNTING LODGES

1. Hanging Ice Fishing Lodge	Located on Schaefer Lake, 32 kilometers northeast of Fort Smith, is open usually mid-May to mid-October. This lodge accommodates 9 persons in 5 log cabins. Facilities include guides, boats, motors, and meals. Rates include the fly-in trip to Salston Lake outpost camp and return to Fort Smith from lodge.
2. Lady Grey Lake Lodge	Located on Lady Grey Lake, northeast of Fort Smith. Rates are $70.00 per day and facilities include cabins, guides, boats and motors.
3. Pilot Lake Cabins	Located on Pine Lake, 46 kilometers northeast of Fort Smith. This lodge is open from mid-June to mid-September and can accommdate 15 persons in 4 self-contained housekeeping cabins. Rates are $60.00 per person per day. No food or fishing equipment is provided.
4. Andrew Lake Lodge	Located on Andrew Lake, Alberta, 90 kilometers east of Fort Smith. The lodge is open from late May to September. It accommodates 18 guests in a main lodge and 8 cabins. Package rates start at $479.00 for 3 days including airfare from Fort Smith. The daily rate is $110.00 without transportation. Andrew Lake is classified as a trophy fishing lake in Alberta.

Appendix D

Tour Operators and Outfitters

1. De West Tours, a Vancouver based operator offers a Western Canada tour which includes a one day and one night stay in Fort Smith. Itinerary begins in Edmonton, then to Fort Smith -- Yellowknife -- Inuvik -- Tuktoyaktuk -- Vancouver -- Victoria -- Vancouver. The $2,705.00/person price includes all accommodation for 14 days and 13 nights, transportation, breakfasts, 2 lunches and 5 special dinners. Highlight of Fort Smith stop includes a sightseeing visit to Pelican Rapids, participating in a "Buffalo Creep" at Wood Buffalo National Park and a festive Indian dinner.

2. Ferguson Travel, a Fort Smith based operator, offers customized tours, fishing trips to area lodges and Wood Buffalo National Park.

3. Wilderness River Encounters Ltd., an Edmonton based operator, offers a 5 day package to Fort Smith and vicinity. This tour is operated during July and August and includes a familiarization tour of Fort Smith, motorcoach tour of northeastern Wood Buffalo National Park and, a river raft tour of the Slave River Rapids. The 1982 cost of $785.00 includes all costs for transportation from Edmonton, meals and accommodation.

4. Canoe Arctic Inc., based in Fort Smith, offers fly-in canoe trips to remote areas of the tundra and taiga, including the Thelon and Coppermine rivers. Tours are customized to suit client's interest and capabilities. Rates include all food and equipment and can accommodate a limited number of persons with no previous canoeing experience.

5. Questor Tours Inc., a New York based operator, offers an Arctic bird watching tour originating from Edmonton. By air, they travel from Edmonton to Whitehorse -- Inuvik -- Yellowknife. By bus, they

Appendix D (cont'd)

then travel from Yellowknife to Fort Providence -- Hay River -- Fort Smith. Tourists are then flown from Fort Smith to Edmonton. The cost of $2,905.00 (U.S. dollars), includes all accommodation and transportation costs for 16 days and 15 nights.

6. Sub-Arctic Wilderness Tours, based in Fort Smith, offers half to 8 day trips, offering a variety of year-round wilderness excursions, including bird and big game viewing, winter camping, dog-sledding fundamentals, and whitewater boating. Learning by participation is encouraged. Trips include journeys through Wood Buffalo National Park and the Precambrian Shield area near Fort Smith. Rates vary from $15.00 to $1,500.00, depending on the activity, destination, and duration of trip. Rates normally cover all transportation, meals and lodging.

Appendix E

Historical Resources of the Fort Chipewyan Region

1. Peter Pond's Athabasca House: Established in 1778, it was the first post in the Mackenzie drainage basin, and may have been situated near the Embarras-Athabasca separation. The exact location of the original site of the North West Company fort is uncertain, since it may have been destroyed by erosion.

2. Old Fort Point: Thirteen historical and archaeological sites have been delineated on Old Fort Point. The most notable of these is the location of Fort Chipewyan 1, established in 1788 by Roderick MacKenzie for the North West Company, and situated on what is presently the Indian Reserve. The other notable site, south of Fort Chipewyan 1, was the over-wintering house of Malcolm Ross, Phillip Turner and Peter Fidler, the latter pair being the first surveyors into the region. The remaining sites, including one on Little Poplar Island, were trappers houses and various other buildings related to trapping and fishing, established between 1788 and the early 1800's.

3. Fort Chipewyan II: The fort was moved from Old Fort Point to somewhere near the source of the Riviere des Rochers in 1799 by John Finley of the North West Company. It served as a post until 1803. The site location is approximate.

4. Fort Chipewyan III: The present-day site of Fort Chipewyan was established by the North West Company in 1803. Taken over by the Hudson's Bay Company in 1821 after amalgamation, it served as the main northern post until 1940. The site is marked by a stone cairn, the few remaining warehouse buildings (dating from 1875) having been moved to new locations by the Hudson's Bay Company.

Appendix E (cont'd)

In the Town of Fort Chipewyan, 21 buildings are listed as having been constructed prior to 1915. All of these are owned by, or associated with the families of Loutitt, Fraser, Wylie, Flett, or Mercredi.

The Anglican Church (1880) is the oldest building in its original position in the community, and is still in active use.

5. XY Co. Fort: This site is located approximately 1.6 kilometers north of the present day Roman Catholic Mission at Fort Chipewyan. It was established in 1799 by Forsythe and Ogilvey. In 1804, the XY Co. amalgamated with the North West Company, and the post was abandoned.

6. Nottingham House: was established as a fur trading post in 1802, on the north east side of English Island by Peter Fidler of the Hudson's Bay Company. It was abandoned in 1806.

7. Fort Wedderburn: This fur trading post was established in 1815 by John Clarke on the north east side of Potato Island opposite Fort Chipewyan. It became the Hudson's Bay Company headquarters for the Athabasca, Peace, and MacKenzie River areas, but after the union of the North West Company and the Hudson's Bay Company in 1821, the post was abandoned in favour of Fort Chipewyan.

8. The Roman Catholic Mission: on Mission Point, was established in 1911, after the former La Nativite Mission (1849) had burned down.

9. Pierre Au Calumet: A small fur trading post established prior to 1819 on the east bank of the Athabasca River by the North West Company, and used until 1821. The site is located about 1.5 kilometers north of Bitumont.

10. Beren's House: The Hudson's Bay Company established an outpost of Fort Wedderburn (1819 - 1921) on the west bank of the Athabasca River, opposite Pierre au Calumet. It was probably built by either

Appendix E (cont'd)

Joseph Greill or Thomas Thomas.

11. Colin Fraser's Free Trading Store: was established in 1898 in a small bay west of Mission Point near Fort Chipewyan. Colin Fraser was one of 12 children, son of piper Colin Fraser, piper to George Simpson, an early Hudson's Bay Company governor. The family is still active in business in Fort Chipewyan today.

12. Fort MacKay: was established in 1870 as a minor Hudson's Bay Company outpost and was named for Dr. William MacKay (1836 - 1917), pioneer physician, surgeon and fur trader.

13. Embarras Portage: has known historic sites associated with the fur trade, but no investigations have been conducted in the area.

14. Mouth of Firebag River: Both fur trade and prehistoric sites are expected to exist in this area because of its excellent fishing and location.

15. Bitumont: is Alberta's first classified Historical Site. The site is located on the east side of the Athabasca River about 40 kilometers north of Fort MacKay. Bitumont was the site of an experimental facility and the first commercially profitable oil sands recovery operation in Canada (1925 - 58). Many structures and equipment remains on-site or in the area, and although in varying states of preservation, constitutes a good representation of the early oil sands mining industry. This site is considered to be the most significant developable historic resource in the Northeast Alberta Region, and is considered also to be of key provincial historical importance.

A portion of the site is a Designated Provincial Heritage Resource. The site, though abandoned, had a live-in caretaker until 1979. Several small parcels are patented, and titles are held. The site is accessible by 4-wheel drive trail or by winter road across the Athabasca River. Also, a small airstrip lies 1.2 kilometers east

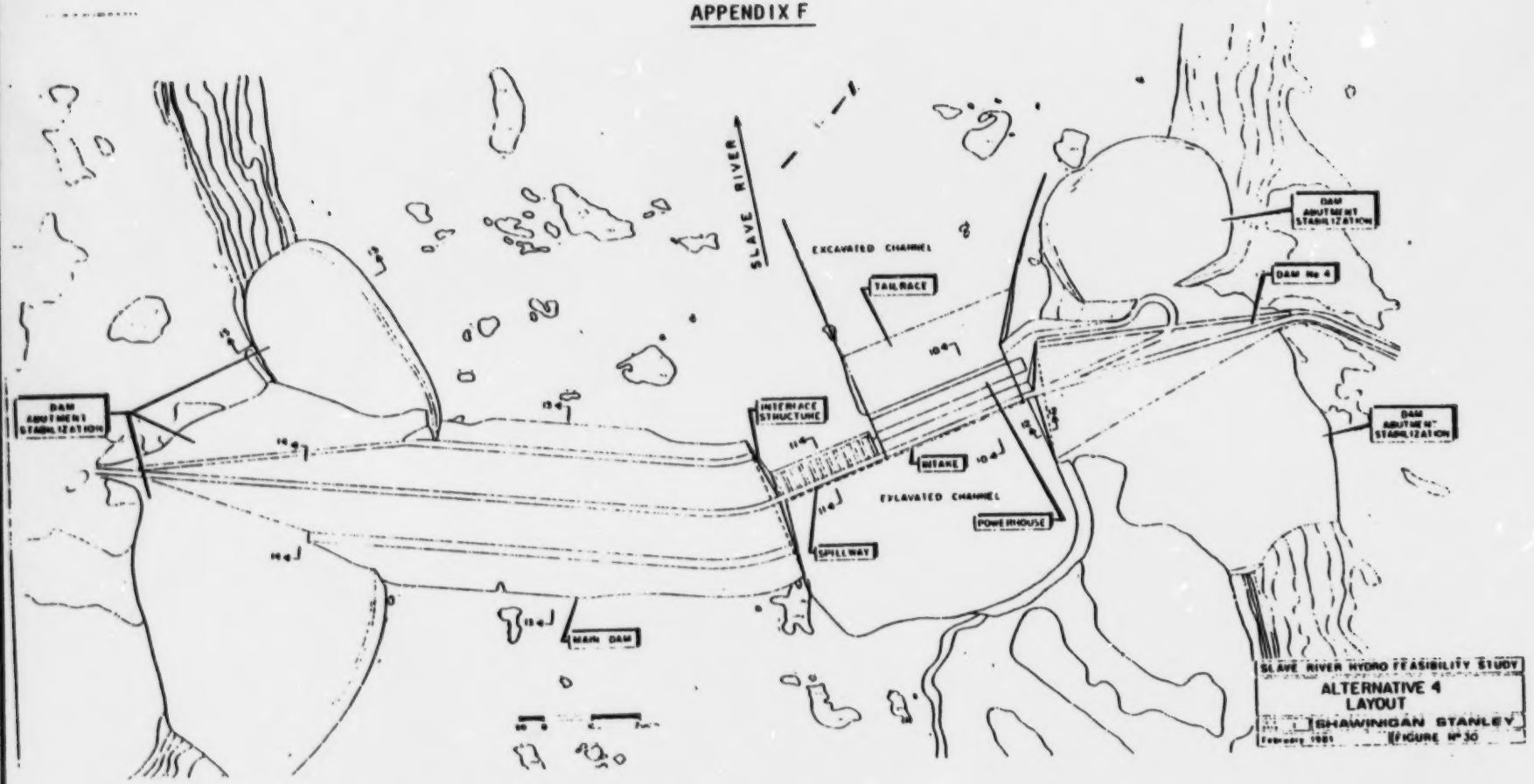
Appendix E (cont'd)

of this site.

The site has been vandalized to some extent.

16. Mouth of the Ells River: Prehistoric sites are anticipated in this area because of its excellent fishing and location.

APPENDIX F


SLAVE RIVER
EXCAVATED CHANNEL
TAILRACE
DAM ABUTMENT STABILIZATION
DAM No 4
DAM ABUTMENT STABILIZATION
INTERFACE STRUCTURE
INTAKE
EXCAVATED CHANNEL
POWERHOUSE
SPILLWAY
MAIN DAM
DAM ABUTMENT STABILIZATION
SLAVE RIVER HYDRO FEASIBILITY STUDY
ALTERNATIVE 4
LAYOUT
SHAWINIGAN STANLEY
FIGURE N° 30

APPENDIX G

ESTIMATED AVERAGE EMPLOYMENT

SLAVE RIVER DAM

	Year 1		Year 2		Year 3		Year 4		Year 5		Year 6		Year 7		Year 8		Year 9	
Half Years:	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Employment																		
Dam:																		
- civil works	0	0	72	142	240	259	369	1206	860	1094	717	1217	295	304	141	12	0	0
- equipment maintenance	0	0	14	33	27	33	33	92	72	78	68	75	56	63	19	0	0	0
- electrical & mechanical installation	0	0	0	0	0	0	0	0	0	0	50	240	247	247	228	221	127	0
- camp operation	0	0	9	17	26	29	40	130	93	116	83	153	60	61	39	23	13	0
- reservoir clearing (50% of total)	0	0	0	34	45	34	45	34	45	34	45	34	45	0	0	0	0	0
- contractor's supervision	0	0	7	17	26	29	40	130	93	116	83	153	60	61	39	23	13	0
- operations	0	0	0	0	0	0	0	0	0	0	0	0	0	60	60	60	60	60
	0	0	102	243	364	384	527	1592	1163	1438	1046	1872	763	796	526	339	153	60

APPENDIX H

Slave River Hydro Dam

Estimated Construction Phase Business Travel

Year		Material & Equipment[1] Truck Round Trips	Employee Travel, Round Trips
2	1st half	6	450
	2nd half	35	1,350
3	1st half	116	1,600
	2nd half	535	2,350
4	1st half	825	2,650
	2nd half	2,215	7,200
5	1st half	1,445	5,450
	2nd half	1,640	6,600
6	1st half	1,100	4,900
	2nd half	1,950	8,400
7	1st half	475	3,500
	2nd half	470	2,900
8	1st half	320	1,600
	2nd half	130	750
9	1st half	88	300
	2nd half	0	0
		11,262	50,000

Notes: 1 This represents 40 metric ton truckloads of material and equipment content going into the project.

Appendix I

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Appendix I (cont'd)

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Appendix I (cont'd)

Following is a list of people who were contacted for sources of information, input and comments:

Telephone interview with Representative of Questor Tours, New York, New York, U.S.A.

Telephone interview with Veronica Thebaule of De West Tours, Vancouver, British Columbia.

Telephone interview with Representative of Jornee Unlimited, Hartford, Conneticut, U.S.A.

Telephone interview with Patty Nelson of Majestic Tours Ltd., Edmonton, Alberta.

Meeting with Tom Ross, Director, Customer Service and Ken Neville, Representative, Pacific Western Airlines, Edmonton, Alberta.

Telephone interview with Roland Jonas of Wilderness River Encounters, Edmonton, Alberta.

Meeting with Diane Griffin, Natural Areas Co-ordinator, Land Management and Development, Public Lands Division, Alberta Energy and Natural Resources, Edmonton, Alberta.

Meeting with Karl Hoffman, owner/operator of the Lady Grey Lake Lodge, Fort Smith, Northwest Territories.

Meeting with Harold Steed, Representative from the Department of Highways, Government of the Northwest Territories, Fort Smith, Northwest Territories.

Meeting with Willie Kensche, Manager, Pelican Rapids Inn, and Pilot Lake Lodge, Fort Smith, Northwest Territories.

Telephone interview with Representative from International Tours, San Francisco, California, U.S.A.

Telephone interview with Representative from Hoag Tours, Grande Prairie, Alberta.

Telephone Interview with Bryan Ross, Planner, Ontario Hydro, Atikokan, Ontario.

Telephone interview with Don Beckett, Representative, Ontario Hydro, Toronto, Ontario.

Meeting with Sonny Flett, Operator of Wood Buffalo Wild Life Tours, Fort Chipewyan, Alberta.

Appendix I (cont'd)

Phone interview with Customer Relations Officer, British Columbia Hydro, (W.A.C. Bennett Dam), Vancouver, British Columbia.

Telephone interview with Don Grimball, former employee of Grimball Engineering,

Telephone interview with B. Mathison, Public Relations Officer, British Columbia Hydro, Revelstoke, British Columbia.

Meetings with Leon Petersen, Fort Smith businessman and Chairman of the Community of the Slave, Fort Smith, Northwest Territories.

Meeting with John Piche, potential outfitter, Fort Chipewyan, Alberta.

Meeting with Alex Hall, Operator of Canoe Arctic Inc., (naturalist outfitter), Fort Smith, Northwest Territories.

Meeting with Donna Clarkson, President of Big River Travel Association, Town Council Member and Resident, Fort Smith, Northwest Territories.

Meeting with Glenna Winter, Departmental Librarian, Alberta Tourism and Small Business, Edmonton, Alberta.

Meeting with Don Syrnyk, Manager, Research and Analysis Unit, Development Branch, Alberta Tourism and Small Business, Edmonton, Alberta.

Phone interview with Ken Howery, Director, Operational Design Branch, Construction Division, Alberta Transportation, Edmonton, Alberta.

Phone interview with Barry Rogers, Head, Recreation Section, Forest Land Use Branch, Alberta Energy and Natural Resources, Edmonton, Alberta.

Phone interview with Dave Neilson, Section Head, Resources Assessment and Management Section, Provincial Parks Division, Alberta Recreation and Parks, Edmonton, Alberta.

Phone interview with Gordon Halls, Director, System Planning Branch, Transportation Planning and Services Division, Alberta Transport, Edmonton, Alberta.

Phone interview with Rod Heitzmann, Heitzmann Consulting Ltd., Edmonton, Alberta.

Meeting with Mike Cables; Jim Johnson, Park Planner; Bob Lewis, Chief Naturalist; Dr. Bernie Lieff, Wood Buffalo National Park Director; all of Parks Canada, Fort Smith, Northwest Territories.

Phone interviews with Jim Green, Travel Promotion Officer, Department of Economic Development and Tourism, Fort Smith Region, Government of the Northwest Territories, Fort Smith, Northwest Territories.

Phone interview with Sharon Coffin, Saskatchewan Department of Tourism and Renewable Resources, Regina, Saskatchewan.

Appendix I (cont'd)

Meeting with Lawrence Courteoreille, Chief Cree Band, Fort Chipewyan, Alberta.

Meeting with Tom and Maureen Clarke, local business persons, Fort Chipewyan, Alberta, and Representative for the Lakeland Tourist Zone.

Meeting with John Chadi, local businessman, Fort Chipewyan, Alberta, and Representative for the Improvement District #18 Advisory Board.

Meeting with Elsie Yanik, owner/operator of Noralta Flights and Lodge, Fort Chipewyan, Alberta, and Representative for the Improvement District #18 Advisory Board and Lakeland Tourist Zone.

Meeting with Joanna Bush, District Ranger, Alberta Forest Service, Alberta Energy and Natural Resources, Fort Chipewyan, Alberta.

Meeting with Archie Bevington, local businessman and town council member, Fort Smith, Alberta.

Phone interview with Keith Thompson, Tourism Research and Planning Development Officer, Travel Arctic, Government of the Northwest Territories, Yellowknife, Northwest Territories.

Phone interview with John O'Neill, Tourism Planning and Development Branch, Department of Tourism and Economic Development, Government of the Yukon, Whitehorse, Yukon.

Meeting with Dr. Martin Swales, Resident Manager, R. L. Walker & Partners Ltd., Edmonton, Alberta.

Meeting with Art Hoole and Jan Bloomfield, Tourism Planning Unit, Development Branch, Alberta Tourism and Small Business, Edmonton, Alberta.

Meeting with Gordon Young, Co-Ordinator Plans & Programs, Northeast Alberta Regional Commission, Edmonton, Alberta.

Phone interview with Gordon Finlay, Manager, Lakeland Tourist Zone, Travel Industry Association of Alberta, Vegreville, Alberta.

Phone interview with James C. Johnston, Head Park Planner, Wood Buffalo National Park, Fort Smith, Northwest Territories.

Meeting with Bryan Heron, President, Metis Association, Fort Smith, Northwest Territories.

Meetings with Ron Davis and Len Heron, Alberta Department of Environment staff at Fort Smith, Northwest Territories.

Phone interview with Don MacArthur, Consultant with Deloitte, Haskins & Sells, Vancouver, British Columbia.

Phone interview with Brent Markham, Section Head, Wildlife Habitat Management, Alberta Department of Fish and Wildlife.

Appendix I (cont'd)

Phone interview with Brian Keper, Head, Environmental Assessment Section, Planning Division, Alberta Department of Environment.

Meeting and phone interviews with Terry Ward, Tourism Officer, Department of Economic Development and Tourism, Government of the Northwest Territories, Fort Smith, Northwest Territories.

Interview with Ken Townsend, Co-Ordinator, Product Development, Travel Alberta.

Interview with Bob Russell, Senior Inter-governmental Officer, Alberta Department of Federal and Inter-governmental Affairs.

Interview with Michael Watson, Wildlife Biologist, Alberta Department of Fish and Wildlife, Edmonton, Alberta.